

LITERATURE OF MANUFACTURERS

Catalogues, bulletins and other direct advertising material recently issued. Manufacturers are requested to send copies of new trade literature promptly to Electric Refrigeration News.

American Radiator

The American thermostatic expansion valve is described in a leaflet issued by the industrial division of the American Radiator Co., Chicago, Ill. This valve makes it possible to use the "dry system" on multiple installations. A diagram illustrates the internal construction of the valve.

Federal Refrigerator

The Federal Refrigeration Co., a division of the Federal Asbestos and Cork Insulation Co., Milwaukee, Wis., has issued a catalog which shows its line of refrigerators for markets, groceries, delicatessens, hotels, institutions and hospitals. Photographs, dimensional drawings and specifications of each model are contained in the catalog.

Gem Kitchen Mechanic

A small folder has been received which describes the Gem Kitchen Mechanic, a small electrical appliance, manufactured by Gem Appliances, Inc., New York, N. Y. The operation of this appliance which mixes, beats, slices, is explained in the folder.

Ice-O-Matic

Six cabinets in the Ice-O-Matic line are described in a booklet sent in by the Williams Oil-O-Matic Heating Corp., Bloomington, Ill. These models are of steel construction and have food capacities ranging from 5 cu. ft., to 19 cu. ft. Compressor and cooling units are also discussed in the booklet. Two photographs show multiple and individual installations.

Onazote

Onazote is described in a booklet "The Flaw of Refrigeration" as a "rubber compound expanded by gas into a highly cellular form, and when viewed under a microscope the material shows a uniform structure made up of minute cells bounded by rubber compound membranes, thus producing an exceedingly light and strong material of a density varying from 3 to 7 pounds per cubic foot."

Rubber for cold storage is discussed and tests on refrigerators insulated with Onazote and with other insulations are reported. The booklet is issued by the Expanded Rubber Co., Ltd., Wembley Park, England, represented in this country by Chas. L. Marshall, 61 S. Fullerton Ave., Montclair, N. J.

Utilities Engineering Institute

The Utilities Engineering Institute, 3120 North Clark St., Chicago, Ill., has issued a folder which describes its home study course on electric refrigeration. Forty-eight lessons in the course are outlined and these include lessons on food preservation, refrigeration principles, refrigeration systems, refrigerants, the compressor and its parts, refrigerator and cooler construction, multiple system, maintenance and other interesting phases.

Zerozone

Six cabinets in the domestic line offered by the Zerozone Corp., Chicago, Ill., are described in a folder which it recently issued. These models have food storage capacities ranging from 4.4 cu. ft. to 14.65 cu. ft. All six models have porcelain exteriors with rounded corners and interiors of one-piece, seamless porcelain-enamel lining. Satin finished chromium plated hardware is featured on all models in the domestic line.

Sixty Attend Servel Sales and Service School Held by Southwestern Lt. & Pr. Co., at Chickasha, Okla.



Utility Company Men Enrolled in Servel School

A Servel sales and service school was held by the Southwestern Light & Power Co., of Oklahoma, recently, in Chickasha, Okla. Included in the group of instructors were S. R. Cooper, technical instructor; W. J. Aulsebrook, assistant commercial manager; and A. W. Grossman, retail sales representative; all of Evansville; and A. Thrasher, district sales manager.

Sixty men, representing every community covered by the Southwestern Light & Power Co., as well as several outside sales representatives, registered for the school. Those attending the school were:

First row—right to left: A. C. Henry, A. D. Kerr, A. Thrasher, J. E. Wilson, W. C. Dobson, A. M. Ferguson, C. P. Jones, J. E. Crail, R. W. Pool, R. Sharp, R. E. Burks, J. F. Watrous, A. W. Eckhart, A. A. Allred, C. Rolfs, G. Roberts, C. O. Bundy, Dick Kopp, Miss

McGeehee, J. O. Shaw, Jack Hawkins, C. V. Gillispie, D. W. Dines, C. S. Wages, H. C. Hall, F. D. Shaffer, Bud Wiser, C. Russell. Center row—right to left: W. J. Aulsebrook, V. T. Stewart, H. O. Wilson, H. L. Banks, C. N. Clark, H. Covin, D. Boyett, R. March, J. W. Love, H. Weber, Parks Brown, Mr. Rapp, M. A. Pilcher.

Lower row—right to left: S. R. Cooper, J. Howard, C. B. Cowles, P. Williams, A. R. Medans, L. Petty, W. H. Douglas, Dick Eslick, G. L. Griffith, A. Thomas, L. W. Conway, C. L. Abel, W. Dillard, R. E. Douglas, G. D. Page, G. F. Stapleton, H. L. Leslie.

"PLEASE CHANGE MY ADDRESS"

Recent movements of subscribers as indicated by changes in mailing addresses.

Armstrong Cork & Insulation Co., Advertising Dept., from Pittsburgh, Pa., to Lancaster, Pa.
Bohny, O., from 5902 Vanderbilt St. to 3919 Gaston Ave., Dallas, Tex.
Bottenfield, A. C., from c/o Kelvinator Cleveland Co., 2106 Euclid Ave. to 16903 Clifton Blvd., Cleveland, Ohio.
Bougher, C. L., from 1442 S. Sixth East to 45 S. Main St., Salt Lake City, Utah.
Bewles, George A., from Box 2081, Bridgeport, Conn., to 2041 Jenkins Arcade, Pittsburgh, Pa.
Brown, Roger K., from 70 W. Euclid Ave. to 3458 Wager, Detroit, Mich.
Chicago Water Purifying Co., from 341 East Ohio St. to 1338 S. Michigan Ave., Chicago, Ill.
Clappison, H. C., from c/o Rice Products, Inc., 301 Beaubien St., to 235 Curtis Bldg., Detroit, Mich.
Cohn, E., from 2020 41st St. to 3081 47th St., Astoria, L. I., N. Y.
Cook, Arthur G., from 380 Eddy St., San Francisco, Calif., to General Delivery, Visalia, Calif.
Da La Vergue Machine Co., from 910 E. 138th St., New York, N. Y., to Richmond and Norris Sts., Philadelphia, Pa.
Danner, T. J., from Midwest Timmermann Co., Dubuque, Iowa, to A. A. Schneiderhahan Co., 214 W. Third St., Des Moines, Iowa.
Dety, H. F., from c/o O. M. Doty, Decatur, Ill., to 1841 Lotus Ave. N., Chicago, Ill.
Ford Refrigeration Co., from 103 High St. to Union Station Bldg., S. Brownsville, Pa.
Garrett, Jas. N., from 213 25th St. to 2508 Washington Ave., Newport News, Va.
Gilliam, I. T., from 842 Macabee Bldg. to 732 Fisher Bldg., Detroit, Mich.
Goff, Ernest A., from 3986 Carnegie Ave. to 1410 Williamson Bldg., Cleveland, Ohio.
Goodheart, M. F., from 120 Boylston St., Boston, Mass., to 25 Broadway, New York, N. Y.
Green, P. E., from 2842 W. 12th St. to 135 N. New Hampshire Ave., Los Angeles, Calif.
Harber, W. E., from 133 McKinnin, Fort Wayne, Ind., to Hotel Manger, New York, N. Y.
Hardin, C. R., from 1165 Bush St. to 50 Laguna St., Apt. 402, San Francisco, Calif.
Heath, D. F., from 1362 Monadnock Block, Chicago, Ill., to 120 Helen St., Bridgeport, Conn.
Hendy, H. R., from 417 Sutter St., San Francisco, Calif., to 727 E. Colorado St., Pasadena, Calif.
Henry, David B., from 510 Kitchener to 1286 Fairview, Detroit, Mich.
Holmes Products, from 2 West 46th St. to 205 East 42nd, New York, N. Y.
Hottel, George, from c/o Remington Arms Co. to c/o Holmes Products, Bridgeport, Conn.
Judd, Edward N. Jr., from 430 Diversey Park to 172 W. Jackson Blvd., Chicago, Ill.
Kenney, Raymond J., from 19 Dennison Ave. to 48A Harvest St., E. Lynn, Mass.
Kerchner, Wm. J., from 324 S. 24th St. to 5059 Diamond St., Philadelphia, Pa.
Lorain Automatic Ice Co., from Lorain, Ohio, to St. Clair and 40th Sts., Cleveland, Ohio.
Modera Appliance Co., from 542 E. Main St. to 203 E. South St., Kalamazoo, Mich.
Moran, E. F., from 1187 Clay Ave. to 1151 Clay Ave., Bronx, N. Y.
Nave, Alfred E., from 1012 S. First St., Evansville, Ind., to B-2 Washington Apts., 205 Washington Ave., Bridgeport, Conn.
Naylor, T. C., from 2106 Euclid Ave. to 16903 Clifton Blvd., Cleveland, Ohio.
Neyhard, S. W., from A42 Chestnut Hill Apts.

to Brurhurst Apt. 305, 4521 Walnut St., Philadelphia, Pa.
Osborne, W. A., from 1992 E. 21st St. to 1992 E. 28th St., Brooklyn, N. Y.
Petegrew Refrig. Co., from 37 West Spruce St. to 9 E. Long, Columbus, Ohio.
Polack, H. A., from 2108 Euclid Ave. to 16903 Clifton Blvd., Cleveland, Ohio.
Pulvermacher, C. E., from 971 E. 63rd St. to 1620 Engineers' Bank Bldg., Cleveland, Ohio.
Rawls, Edgar, from 1100 College St., Newberry, S. C., to 503 Taggart St., Greenwood, S. C.
Raymond, L. C., from 1046 Dakin St. to 4130 Kenmore Ave., Chicago, Ill.
Redmond, James R., from 2829 Pina Del Vista to 2905 Olive Ave., Alhambra, Calif.
Refrigeration Service, Inc., from 503 West Pico St. to 1503 W. Pico St., Los Angeles, Calif.
Rice-Tuck Refrigeration, Inc., from 10220 Plymouth to c/o Reed-Standish, Inc., 2467 Grand River Ave., Detroit, Mich.
Richards, L. W., from 1507 Walker Bank Bldg. to 852 Browning Ave., Salt Lake City, Utah.
Richardson, Ivan, from 1033 Lawrence Ave., Chicago, Ill., to 367 Piper Blvd., Detroit, Mich.
Servel Corp., from 51 No. Munn Ave. to 121 Oakland, Newark, N. J.
Shearer, J. J., from 251 Sixth Ave. to 5025 Penn So., Minneapolis, Minn.
Skaggs, J. H., from 736 33rd St. to 4350 Center, Des Moines, Iowa.
Smith, S., from 23rd and Haywood Aves., West Vancouver, B. C., Canada, to 10 South St. Scarborough, Yorkshire, England.
Springer, H. R., from 5455 Harper Ave. to 6402 S. Fairfield Ave., Chicago, Ill.
Spry & Sons, B. W., from 1621 E. Central, Albuquerque, N. Mex., to General Delivery, Phoenix, Ariz.
Stover, S. M., from 3004 Barton Ave. to P. O. Box 6026, Richmond, Va.
Tanner, F. L., from 7425 N. Robey St., Chicago, Ill., to 488 Hemphill St., Atlanta, Ga.
Tinker, O. C., from 2106 Euclid Ave. to 16903 Clifton Blvd., Cleveland, Ohio.
Webb Electric Appliance, from 6312 Easton Ave. to 1460 Hodiadmont, St. Louis, Mo.
White Bros., from 103 Arcade Bldg. to 608 Sixth St., Racine, Wis.
Whitney, L. V., from 666 Lake Shore Drive to 236 E. Erie St., Chicago, Ill.
Wright, W. G., from 4140 Washington Blvd. to 5567 Waterman Ave., St. Louis, Mo.

ATTRACTIVE FLORAL CASE AT PINEHURST

The florist case shown here was installed in the Carolina Hotel at Pinehurst, N. C., by the American Soda



Floral Case by American Soda Fountain Co., Watertown, Mass.

Fountain Co. of Watertown, Mass. A Frigidaire condensing unit provides the refrigeration for this case. Electric light fixtures are installed inside the case and when lighted the contents of the case and the triangular-shaped piece of onyx over the door are illuminated, giving the case an attractive appearance.

Washington G. E. Distributor Opens Retail Store

Gordon Prentice, Inc., western Washington distributors of General Electric refrigerators, have opened their retail store at 1925 First Ave., Seattle. H. H. Pricehouse has been appointed retail sales manager. Approximately fifty salesmen will be employed in apartment house, commercial, wholesale, and retail divisions of the new concern.

REQUESTS FOR INFORMATION

Readers who can assist in furnishing correct answers to inquiries or who can supply additional information are invited to address Electric Refrigeration News, referring to the query number.

Query No. 232—A firm acting as sales and purchasing agents for foreign accounts writes, "We have been informed that you are in the position to furnish us with a list of all electric refrigerator manufacturers. Will you please send us a list of all firms who you think might be interested in having an intelligent sole agency arrangement in Shanghai, China?"

Gas Masks

Query No. 228—A reader in New Jersey asks, "Please let us know where we can purchase gas masks for sulphur dioxide."

NOTE—The Pulmosan Safety Equipment Corp., 176-A Johnson St., Brooklyn, N. Y., manufacture sulphur dioxide gas masks.—Editor.

Frozen Strawberries

Query No. 229—An advertising firm in the East writes, "At present we are conducting an investigation of the frozen fruit and frozen berry industry with particular attention centered on the packing and merchandising of frozen strawberries in paraffined containers. We would certainly appreciate any information you might be able to give us pertaining to this subject."

Dollies

Query No. 230—A reader in Missouri inquires, "We are in the market for dollies with rubber covered wheels. Will you kindly advise us where we can purchase the same?"

NOTE—You can obtain dollies with rubber covered wheels from the William Pike Co., 319 Woodward Ave., Detroit, Mich., in a 17x26 inch size with a capacity of 500 lbs. at a price of \$10.75 each, F.O.B. Detroit. The frame is covered to protect the finish of the refrigerator.—Editor.

Dry Ice

Query No. 231—A reader in Connecticut asks, "Please tell me what is Dry-Ice."

NOTE—Dry-Ice is the trade name of the solid carbon dioxide manufactured by the Dry-Ice Corp. of America, 50 East 42nd St., New York, N. Y. The gas CO₂ is converted into snow by expansion and then it is compressed into blocks of a density about 50 per cent greater than that of water ice. Instead of melting into water, Dry-Ice disappears as carbon dioxide gas.—Editor.

Answers to Previous Queries

Query No. 225—Ethyl chloride can be obtained from the Roessler & Hasselacher Chemical Co., Niagara Falls, N. Y.

NEW DEALERS & DISTRIBUTORS

Recent appointments announced by manufacturers and new sales outlets reported from the field.

Sparklets, Inc.

Distributors:
Western Novelty Co., Los Angeles, Calif.
General Electric Supply Co., 172 Haynes St., S. W., Atlanta, Ga.

Dealers:
Bryant Electric Refrigerator Corp., New Milford, Pa.
Johnstown Refrigerating Co., Johnstown, Pa.
G. A. Barlow's Son Co., Trenton, N. J.
C. H. Stull Co., Grand Rapids, Mich.
Fio Electric Co., Mahanoy City, Pa.
Spring & Buckley Electric Co., New Britain, Conn.
Westfield Gas & Electric Light Co., City of Westfield, Mass.
Consumer Power Co., Jackson, Mich.
Welsbach Co., 1002 Tenth St., N. W., Washington, D. C.
Page Morris Inc., Albany, N. Y.
Palmer's Radio Store, Inc., Waterbury, Conn.
Fowler's Sons, Inc., Louisville, N. Y.
A. H. Karl, Inc., 282 E. Third St., Mt. Vernon, N. Y.
Portland Gas & Coke Co., Portland, Ore.

THE CONDENSER

ADVERTISING RATE fifty cents per line (this column only).

SPECIAL RATE if paid in advance—Positions Wanted—fifty words or less, one insertion \$2.00, additional words four cents each. Three insertions \$5.00, additional words ten cents each. All other classifications—fifty words or less, one insertion \$3.00, additional words six cents each. Three insertions \$8.00, additional words sixteen cents each.

POSITIONS AVAILABLE

As manufacturers of household electrical refrigerators, with a program national in scope, several unusually attractive opportunities are available to men qualified to absorb their responsibilities.

Applications will be welcome from men experienced and intimately familiar with manufacturing and engineering problems of this industry. Likewise, men having taken student courses and familiar with shop activities relating to assembling, charging and testing of refrigerators.

Applications to be considered, must cover fully all details pertaining to age, personal description, married or single, training, experience, and study courses taken.

Applications will receive thorough and fair consideration, and to those that meet our standards of qualifications, a complete outline of opportunities will be sent. Box No. 156.

Wanted—Competent electric refrigerator salesman to sell Kelvinator. City of over 100,000 population, near Chicago, excellent field and proposition to one who can produce. Lighthouse Electric Company, Gary, Indiana.

Sales Engineer—Wanted to sell or supervise selling Servel commercial refrigeration for well established and financially responsible authorized Servel Distributors. Five openings available in various parts of the country for immediate acceptance. State training, experience, age, married or single, territory preferred, salary or drawing account desired. Commercial Department, Servel Sales, Inc., Evansville, Ind.

POSITIONS WANTED

FACTORY CONNECTION desired as field representative or zone manager. Five years as distributor, large territory, well known make electric refrigerator. Well grounded experience in sales and field work, domestic and commercial installations. Go anywhere. Address Box No. 151.

EXECUTIVE ENGINEER—Associated with electric refrigeration for the past ten years, seeks position with responsible corporation either in temporary or permanent capacity. Especially qualified to analyze and correct problems confronted with while in development stage or thereafter. Considered an authority on tooling up, production control and economy of operation. Box 157.

Refrigeration Service Engineer—Eight years experience in practical refrigeration. Experienced in organizing training and managing service department. Can handle domestic, commercial, multiple installations. Have traveled as factory representative. Can give best of references. Prefer Kelvinator. Box No. 159.

FOREIGN SHIPMENTS OF ELECTRIC REFRIGERATORS

February Exports Reported by Bureau of Foreign and Domestic Commerce

Country of Destination	Units Up To 1/4 Ton Capacity		Units Over 1/4 To 1 Ton Capacity	
	No.	Value	No.	Value
Austria	11	1,959		
Belgium	121	18,230		
France	203	30,502		
Germany	199	30,340		
Hungary	3	674		
Italy	101	19,075		
Netherlands	42	8,015	2	599
Norway	4	7,058		
Spain	30	13,581		
Sweden	40	7,900		
Switzerland	3	500		
United Kingdom	259	39,217	3	617
Canada	371	67,459	256	61,550
Guatemala	2	812	3	1,374
Nicaragua	2	214		
Panama	25	7,497		
Salvador	2	418		
Mexico	28	6,525	4	1,009
Bermudas	2	213	3	509
Barbados	2	569		
Jamaica	3	663	1	341
Other British West Indies	3	654		
Cuba	78	18,403	1	583
Dominican Republic	11	2,394		
Haiti, Republic of	2	430		
Argentina	294	47,635	2	1,172
Brazil	44	7,472	16	3,314
Chile	37	6,328		
Colombia	113	29,609		
Peru	23	5,088		
Uruguay	9	1,500		
Venezuela	8	1,358	11	2,100
Aden	1	170	1	359
British India	137	18,450	9	1,837
British Malaya	11	2,275		
Ceylon	8	1,460		
China	23	4,628	2	384
Java and Madura	10	2,419	11	2,306
Hong Kong	46	9,828		
Japan	4	593		
Philippine Islands	211	31,367		
Siam	6	722	1	281
Turkey	13	2,255		
Australia	105	18,581	80	14,280
New Zealand	28	4,803		
British East Africa			1	800
Union of South Africa	49	10,727	45	6,856
Egypt	1	428		
Algeria and Tunisia	32	5,339		
Morocco	28	4,313		
Other Portuguese Africa	1	405		
Gold Coast	6	772		
Total	2,331	\$496,407	453	\$100,135

Subscription Order

ELECTRIC REFRIGERATION NEWS,
550 MACCABEES BUILDING, DETROIT, MICH.

Please enter subscription to Electric Refrigeration News.

United States and Possessions:

☐ \$2.00 per year. ☐ Three years for \$5.00.

All other Countries:

☐ \$2.25 per year. ☐ Two years for \$4.00.

I am enclosing payment in the form of

☐ Check ☐ P. O. Order ☐ Cash

Name.....

Street Address.....

City and State.....

Remarks.....

ELECTRIC REFRIGERATION NEWS

The business newspaper of the refrigeration industry

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FOOD PRESERVATION PROGRAM ENDORSED

REFRIGERATION OF MEAT DISCUSSED BY DETROIT ENGINEERS

Experience Shows That Proper Circulation and Humidity as Important as Temperature

IT is better for the meat market to keep meat at approximately the same temperature which will be encountered in the household refrigerator than at the lower temperatures which are possible with mechanical refrigeration, according to Bruno Schairer, president of the Detroit Retail Butchers Association, because if the temperature is raised after delivery moisture collects on the surface, creating a slimy condition which alarms the customer. In the cooling rooms of the market, air circulation is extremely important in maintaining a fresh condition of meat; otherwise the stagnant air surrounding it will cause an offensive odor even though a low temperature is maintained and there is no spoilage whatever. The habit of packers in chilling meat to very low temperatures, even freezing it, is the cause of much of the retailers difficulty, in Mr. Schairer's opinion. Each time the temperature is raised, during the processes of transportation and handling, the meat tends to sweat. If the temperature could be gradually lowered through the various stages this difficulty would be eliminated.

Mr. Schairer presented the problem of refrigeration from the viewpoint of the user at a meeting of the Detroit Section of the American Society of Refrigerating Engineers held Monday evening, April 22, at the Detroit Engineering Society Bldg., 478 West Alexandrine street. Other speakers who discussed commercial application and equipment were: G. S. Bataille, Copeland Products, Inc.; D. B. Henry, commercial sales engineer, Copeland Products, Inc., and F. R. Erbath, development engineer, Kelvinator Corp. G. S. Bataille, until recently with the Hussman Co. of St. Louis, gave an in-

(Concluded on page 2, column 2)

H. A. MARTZ SUCCEEDS MASON AS HEAD OF WELSBACH COMPANY

H. R. Martz, of the Day & Zimmermann Co., 120 North Broad St., Philadelphia, Pa., has been elected president of the Welsbach Co., Gloucester, N. J. He succeeds Sidney Mason, who has retired. The marketing plan of the Welsbach Co. has been greatly augmented. Jobbing houses will retain control of the whole-sale market and the new set-up includes direct factory representatives selling and contacting these outlets. Duplicating and exceeding the present location of branches are sales offices and representatives of the refrigeration, heating and lighting divisions. Billing and accounting will all be done in the main office at Gloucester.

GEORGIA POWER SET FOR \$750,000 DRIVE

The Georgia Power Co., Atlanta, Ga., announces that on May 1 it will inaugurate another spring drive on electric refrigerators with a quota of \$750,000 as the final goal. Fifty-two actual selling days will be included in the drive which will close on June 30.

General Electric refrigerators will be featured in the domestic lines while Kelvinator and General Electric units will comprise the commercial line. Special terms will be offered during the campaign as inducements to prospects.

In the 52 actual selling days during the campaign the sales per day will have to average \$14,615. Last year in the spring drive which extended over the same period sales totaling \$641,400 were made.

Spring Meeting of Refrigerating Machinery Association at Hot Springs, May 16-18

Fred Nolde, secretary of the Refrigerating Machinery Association, announces that this group will hold its spring meeting at the Homestead in Hot Springs, Va., on May 16-18.

IMPORTANT DATES TO REMEMBER

Following are convention dates of special interest to refrigeration men:

Refrigerating Machinery Association, The Homestead, Hot Springs, Va., May 16-18.

National Electrical Manufacturers Association, The Homestead, Hot Springs, Va., May 20 to 25. Domestic and Commercial Sections of the Refrigerating Division (Manufacturers of automatic refrigeration systems formerly members of the Refrigeration Manufacturers Council) Tuesday, May 21.

National Electric Light Association, Municipal Auditorium, Atlantic City, N. J., May 31 to June 7.

American Society of Refrigerating Engineers, State College, Pa., June 20 to 22.

ABSOPURE SUES FOR \$5,000,000 DAMAGES FROM FRIGIDAIRE

Alleges Bad Faith in Patent Suit.

THE Absopure Refrigeration Corp. has filed suit in the United States District Court, Detroit, Mich., naming the Delco Light Co., Frigidaire Corp. and the General Motors Corp. as joint defendants and claiming damages to the extent of \$5,000,000 suffered because of the recent patent suit. The plaintiff alleges that the suit was not filed in good faith but was designed to wreck the sales organization of the plaintiff. The action is now awaiting the filing of a bill of particulars.

According to reports in the daily press, officers of the defendant companies disclaim any improper intention and say they honestly believe that their patents were being infringed.

H. J. Redwood Now Manager of Absopure Refrigeration Corp.

Harry J. Redwood, vice-president of the Detroit City Service Co. has recently left that connection and taken a position as vice president and general manager of the Absopure Refrigeration Corp., Detroit, Michigan.

G. E. HOLDS FIRST CENTRAL STATION MEETING APR. 8-9-10

Utility Men Discuss Angles of Central Station Merchandising

THE first Central Station Refrigeration Conference of the General Electric Co., was held April 8, 9, and 10, at the Refrigeration Institute in Cleveland. The purpose of the meeting was to jointly discuss ways and means of mutually capitalizing on the electric refrigerator.

Merchandising managers of approximately forty electric utility organizations were present. H. H. Bosworth, manager of the central station division, opened the meeting. He was followed by P. B. Zimmerman, sales manager, who talked on the subject "Where Do We Go From Here," discussing the advantages of the electric refrigerator as a load builder.

A. C. Mayer, manager, merchandising service division, explained the sales opportunities which an "electrically conscious" public is presenting to the electric refrigeration industry.

The motion picture, "All Steel" was shown and W. M. Timmerman, commercial engineer, explained the reason for all-steel construction.

Many angles of the central station merchandising problem were discussed and compared by utility men from all over the country. Carl Brown, Georgia Power Co., explained a new group selling plan which his company is now trying, also the advantages of long time payments.

Selling campaigns and all-year-round selling were discussed by J. H. Van Aernam, New York Power and Light Corp.; W. J. Geiger, Philadelphia Electric Co.; C. L. Dunn, Ohio Public Service Co.; M. E. Skinner, Mohawk-Hudson Power Co.

Methods of handling campaigns, their value, results of various campaigns, quotas aimed for and systems of compensating sales men for campaign efforts were reviewed.

NELSON APPOINTED CHIEF ENGINEER OF RICE PRODUCTS

R. G. Nelson, formerly chief engineer of the Norge Corporation, has been appointed to the same position by Rice Products, Inc., 311 Beaubien St., Detroit, Michigan.

Twelve Companies Subscribe \$175,000 to Start Fund for Educational Campaign Prepared by Central Station Committee

DISBAND COUNCIL TO BECOME DIVISION OF NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION

ADOPTING a plan proposed a year ago, members of the Refrigeration Manufacturers' Council unanimously agreed, at a meeting held at the Hotel Statler, Detroit, Michigan, April 16, 1929, to abandon the idea of an independent trade association in favor of joining the old and well-established National Electrical Manufacturers' Association as a division.

N. E. L. A. CONVENTION PROGRAM INCLUDES MANY NEW FEATURES

"Talkies" at Each Session; Henry Ford Will Attend

PLANS for the 52nd annual convention of the National Electric Light Association which will be held at Atlantic City, N. J., May 31-June 7, are rapidly materializing and the convention and exhibition committee announces that a number of prominent men in the industry will be present at the meeting. Among those who have accepted places on the program are: Julius H. Barnes, Walter S. Gifford, Matthew S. Sloan, John W. Lieb, Marshall E. Sampson, Briton I. Budd, W. A. Ransom, A. W. Robertson, J. R. Howard, W. J. Hagenah, Charles E. Edgar, J. F. Owens, E. C. Stone, J. F. Ford and W. H. Onken, Jr.

Among the many prominent men who will attend the convention will be Henry Ford. The features of this year's convention will be talking motion pictures at each session presenting messages from persons of international fame, another motion picture entitled, "The Romance of Power," which was filmed especially for the convention, exhibits the festival

(Concluded on page 2, column 1)

The meeting, which was attended by executives of twelve companies, was one of the most representative and harmonious sessions ever held in the electric refrigeration industry and resulted in a complete agreement regarding a number of constructive measures in the interest of the industry as a whole. Of outstanding importance were: (1) The decision to affiliate with the National Electrical Manufacturers' Association (Nema), thereby taking advantage of the established organization facilities, statistical service, code experience, legal counsel and inter-industry relations, and (2) the unanimous endorsement of the National Food Preservation Activity developed by the Refrigeration Committee of the National Electric Light Association as a co-operative educational program in which all organizations interested in protection to health through better food preservation will be invited to participate.

Other subjects considered were: uniform factory guarantees, standardization of accounting and billing methods, trend of style in the color and finish of cabinets, co-operation with the Department of Commerce in trade research, and relations with related trade associations.

C. King Woodbridge, formerly president of the Kelvinator Corp. and president of the Refrigeration Manufacturers' Council, opened the meeting and acted as chairman during the discussion with reference to joining Nema and until the formalities of the transfer were effected. T. K. Quinn, manager of the electric refrigeration department of the General Electric Co. was then elected as chairman of the new Refrigeration Division. It was agreed to provide for two sections of the division, namely, domestic and commercial, member companies having the privilege of joining either one or both of the sections. George W. Mason, president of the Kelvinator Corp. was elected chairman of the Domestic Section and John D. Hollowell, secretary and general manager of the Dole Refrigerating Machine Co., was elected chairman of the Commercial Section.

Representing the Refrigeration Committee of the National Electric Light Association, P. B. Zimmerman presented the plan for a national and local co-operative activity designed to focus public attention on the need for health protection through better preservation of food. The program calls for national and local advertising, magazine and newspaper articles, radio talks, billboard posters and window displays, local addresses and other forms of publicity largely concentrated during the month of September. This time was selected because it offers an opportunity to emphasize the need for all year-round refrigeration and comes during a period when there has been a tendency to relax selling effort.

Announcements regarding the plan, which has been under preparation for some time, have been held in abeyance until it could be presented to the electric refrigeration manufacturers and assurance received that this group would cooperate to the fullest extent.

Following the presentation by Mr. Zimmerman, the members unanimously endorsed the activity and each company present pledged a subscription to the fund. A total of \$175,000 was subscribed and it was believed that this amount would be increased to \$200,000 or more when other manufacturers were given an opportunity to contribute. The Frigidaire Corp., while not represented at the meeting, was announced as a substantial subscriber to the fund mentioned above.

During the afternoon various subjects of common interest to the group were discussed at considerable length. Several

(Concluded on page 2, column 1)

The French Chef Says Eggs Kept in an Electric Refrigerator Need Not be Suspected



In France the chef is supreme in all food matters. Cooking schools have men as the "professor of cuisine," and food demonstrations, to carry any weight, are supposed to require the presence of Pierre or Gaston. The French branch of Frigidaire, Ltd., has used a series of chef window displays. In the one above the chef-figure is examining an egg through a magnifying glass, and looking suspicious about its age and character.

FOOD PRESERATION PROGRAM ENDORSED

(Concluded from page 1, column 5)

committees were appointed to collect information and report on specific problems. The next meeting of the domestic and commercial sections will be held at Hot Springs, Va., Tuesday, May 21, in connection with the regular meeting of the National Electrical Manufacturers' Association, May 18 to 25.

The following companies were represented at the meeting:

General Electric Co., Electric Refrigeration Department, Cleveland, Ohio, T. K. Quinn, general manager, and P. B. Zimmerman, sales manager.

Kelvinator Corp., Detroit, Mich., George W. Mason, president and C. King Woodbridge (retiring president of the Refrigeration Manufacturers' Council).

Servel, Inc., New York, N. Y., W. F. Thatcher, vice-president.

Copeland Products, Inc., Detroit, Mich., Louis Ruthenburg, president, and Wm. Robert Wilson, chairman of the board.

Norge Corp., Detroit, Mich., Howard E. Blood, president.

Abspure Refrigeration Corp., Detroit, Mich., M. C. Burnside, general manager, and H. C. Hayes, chief engineer.

Climax Electrical Refrigeration Co., Chicago, Ill., E. B. Mallory, president, and W. C. Rowles, assistant to president.

Universal Cooler Corp., Detroit, Mich., G. M. Johnston, general manager.

Peerless Ice Machine Co., Chicago, Ill., R. W. Kritzer, vice-president.

Holmes Products, Inc., New York, N. Y., J. F. Plummer, vice-president and general manager.

Dole Refrigerating Machine Co., Chicago, Ill., John D. Hollowell, secretary and general manager.

Westinghouse Electric & Mfg. Co., Mansfield, Ohio, J. S. Trittle, general manager, Merchandising Department, and Carl D. Taylor, manager, Refrigeration Department.

Others present were as follows:

Marshall T. Jones, chief, Electrical Equipment Division, Bureau of Foreign and Domestic Commerce, Washington, D. C.

C. F. E. Luce, secretary, National Commercial Fixture Manufacturers' Association, Grand Rapids, Mich.

S. N. Clarkson, assistant director, National Electrical Manufacturers' Association, New York, N. Y.

F. M. Cockrell, editor, ELECTRIC REFRIGERATION NEWS, Detroit, Mich.

PROGRAM OF THE N. E. L. A. CONVENTION

(Concluded from page 1, Column 4)

of light staged by Atlantic City in celebration of the 50th anniversary of the incandescent light, and the dedication of the new \$15,000,000 Atlantic City convention hall.

General session will be held on the morning of Tuesday, June 4, Wednesday, June 5, Thursday, June 6, and Friday, June 7. These sessions will convene at 10:00 a. m. Section sessions will be held in the afternoon beginning at 3 o'clock. Accounting and engineering sessions will be held in parallel Tuesday; commercial session, Wednesday afternoon and public relations session on Thursday afternoon.

Convention and Exhibition Calendar

Friday, May 31st:

Exhibition will be opened at 6:00 P. M. for inspection by delegates and general public from the balcony of the Municipal Auditorium.

(Note: Visitors will not be admitted to the exhibition floor on Friday evening.) Municipal Auditorium Dedication. Program to be announced later.

Saturday, June 1st:

Registration will open at 10:00 A. M. Exhibition will open at 12 noon to delegates and general public, remaining open that afternoon and evening.

Sunday, June 2nd:

Registration will open at 2:30 P. M. Exhibition will open at 12 noon to delegates and general public, remaining open that afternoon and evening.

Monday, June 3rd:

Registration will open at 8:30 A. M. Exhibition will open at 9:00 A. M. to delegates and guests only, remaining open that morning and afternoon.

The President's Reception at 9:00 P. M. to be followed by dancing.

Tuesday, June 4th:

Registration will open at 9:00 A. M. Exhibition will open at 9:00 A. M. to delegates and guests only, remaining open that morning and afternoon.

First General Session at 10:00 A. M.

Accounting National Section Session at 3:00 P. M.—Chelsea Hotel.

Engineering National Section Session at 3:00 P. M.

Seaview Day entertainment for the ladies.

Dancing in the evening.

Wednesday, June 5th:

Registration will open at 9:00 A. M. Exhibition will open at 9:00 A. M. to delegates and guests only, remaining open that morning and afternoon.

Second General Session at 10:00 A. M.

Commercial National Section Session at 3:00 P. M.

Card Game for ladies in afternoon.

Entertainment and Dancing in evening.

Thursday, June 6th:

Registration will open at 9:00 A. M. Exhibition will open at 9:00 A. M. to delegates and guests only, remaining open that morning and afternoon.

Third General Session at 10:00 A. M.

Public Relations National Section Session at 3:00 P. M.

Public Policy Committee Session at 9:00 P. M.

Dancing at conclusion of this Session.

Friday, June 7th:

Registration will open at 9:00 A. M. Exhibition will open at 9:00 A. M. to delegates and guests only, remaining open until 1:00 P. M.

Fourth General Session at 10:00 A. M.

Convention adjournment about 1:30 P. M.

Kelvinator Men Move Up



J. A. Corcoran, formerly advertising manager of Kelvinator Corp. who has been made manager of the New York branch of the company.



Earl Lines, formerly advertising manager of the Leonard Refrigerator Division who succeeded Mr. Corcoran as advertising manager of Kelvinator.

REFRIGERATION OF MEAT DISCUSSED BY ENGINEERS

(Concluded from page 1, column 1)

teresting account of the result of several weeks intensive research on the subject of meat storage in refrigerators and display cases. He emphasized the necessity for maintaining proper humidity and air circulation for the temperature used. Experiments have demonstrated, he said, that meat may be kept fresh and sweet in a display case for five days at a temperature around 37 degrees provided a relative humidity of 85 and a complete air circulation of approximately four times per hour is maintained. In fact, experiments showed that the product was in better condition after five days with all three factors as specified than after 24 hours in a case having a lower temperature but without correct humidity and air circulation.

Method of Connecting Air Circulation in Old Cases

Loss of weight, due to dehydration, one of the common complaints met by service men, is due to lack of sufficient moisture in the case. The design of many display cases now in use and which have been equipped with mechanical refrigeration during recent years, is such that the normal air circulation is entirely inadequate. Such cases have a flat floor on which the meat is displayed with the refrigerating coil in a compartment at the back. The tendency is for the air to circulate only in the part adjacent to the coil and tests showed that there was no movement of air whatever in the front part of the case. By changing the floor so that it sloped downward a rapid air circulation was produced over the meat but this had the effect of drying it out and making steaks so tough they were uneatable. By raising the display floor so that the cold air passed underneath the meat and at the same time moved over small troughs of water, the humidity was immediately raised and when this air passed over the meat from front to back of the case the results were entirely satisfactory.

Other experiments have demonstrated that improved results are secured by using sufficient capacity in the cooling coils to permit a fairly small differential in temperature between the coils and the air temperature to be maintained.

This prevents frosting of the coils and consequent dehydration of the circulating air. In brief, most of the troubles found in the refrigeration of meat display cases and coolers may be traced to improper humidity or air circulation. If the meat discolors it is due to lack of circulation. If there is loss of weight, the trouble is lack of moisture.

The necessity for ample cooling surface was also brought out by F. R. Erbach, development engineer of the Kelvinator Corp., who related the experience of this company which resulted in the design of the cross fin coils lately put on the market. In making these units two U-tubes are inserted through four holes punched in thin plates of approximately 6 inches square, the plates being 1/4 inch apart. This design lends itself to production methods since the units may be made of any desired length by simply increasing the length of the U-tubes and adding additional fins. The size of the fins is standard and is such that the resulting units may be fitted into practically any size or style of cooling case.

D. B. Henry, commercial sales engineer of Copeland Products Inc., explained the zero tubes developed by this company for commercial application and pointed out that a series of seven sizes had been developed which will meet all requirements. Any size or shape of case may be refrigerated by the simple expedient of combining suitable sizes of zero tubes.

Preceding the program a business session was held at which two officers were elected to fill vacancies in the Detroit section. T. F. Belshaw was elected secretary and F. B. Riley, treasurer by unanimous vote. "Service schools and the training of service men" was announced as the subject for the next meeting.

798 MACHINES SOLD BY OHIO PUBLIC SERVICE IN FIRST 17 DAYS OF DRIVE

Quota for Month 1,200 Units

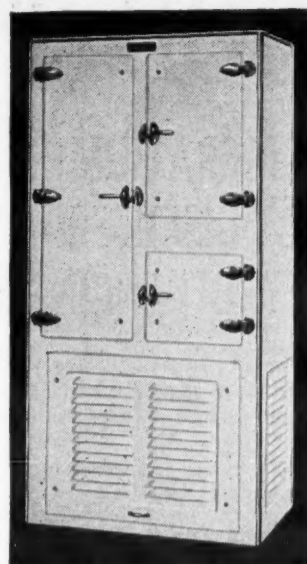
During the first 17 days of a 30 drive on electric refrigerators, the new business department of the Ohio Public Service Co., Cleveland, Ohio, sold 798 units or 66.5% of its quota of 1,200 machines. The campaign opened on March 18 and plans for extending it until May 18 are being made, so that the slogan, "Make the quota in 30 days—double it in 60 days" can be fulfilled.

A National Acceptance

The gratifying reception that has been accorded the NEW BOHN SANITOR series is undoubtedly due to its low price—but by no means to price alone, for in every detail of its construction BOHN standards have been adhered to rigidly. Here is a super-quality, all-porcelain refrigerator that is as beautiful in appearance as it is efficient in service. Quantity production brings its price within the reach of the majority of families in your community.

These models together with those of the other famous BOHN Lines combine to make a group of refrigerators that answer every requirement in style, size and price.

Our catalog gives complete information and it is yours for the asking.



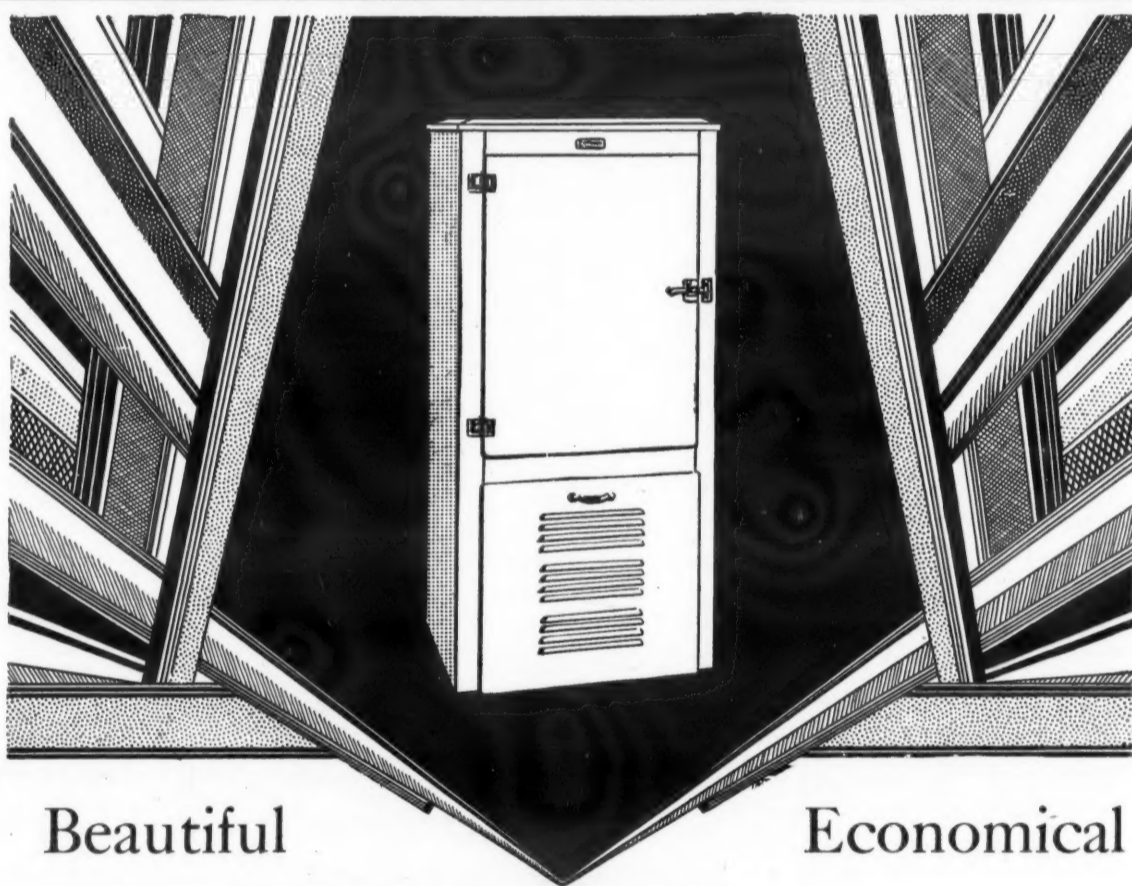
Nothing finer can be said of a refrigerator than
"It was built by BOHN."

BOHN REFRIGERATOR COMPANY
SAINT PAUL, MINNESOTA

NEW YORK

CHICAGO

BOSTON



Beautiful

Economical

ZEROZONE

New, beautiful models of graceful design and compelling attractiveness are now available, and are being enthusiastically received wherever shown. With its inherent strength and power due to precision manufacturing, Zerozone is a complete line that answers all the varied requirements of your prospects. Zerozone enables you to supply a unit to cover every refrigeration need from the largest to the smallest installation—either for domestic or commercial use.

There are still a few select territories open for live distributors. Write us for details

Zerozone
Lifetime Refrigeration

ZEROZONE CORPORATION, 927 E. 95th STREET, CHICAGO

III THE SPARKLET TRINITY

the three prime reasons for Sparklets importance in your business.....



SPARKLETS now furnish the solution for two fundamental problems in this business of selling refrigerators! One, the making of ice cream in the freezing tray. Two, amply servicing every refrigerator in use without disturbing the profit ratio. That is the premise on which Sparklets, Inc., exists in your field. The following Sparklets trinity offers you vital assistance in your business.

I

The transformation of one-time, one-profit refrigerator customers into *permanent* and *continuously profitable* customers for Sparklet Syphons, Bulbs and Syrups and an appreciable increase in your store traffic.

II

Turning service calls back to the other side of the ledger, and make service men pay a profit instead of becoming a dead expense.

III

Actually assist you sell refrigerators by affording a mobile, interesting vehicle upon which to base a dramatic demonstration of refrigerators;

The Sparklet spirit is the spirit of helpfulness. Sparklet home economists and special representatives know that they have two things to sell the public—Sparklets and refrigerators!

Send for the new Sparklets Blue Book — a complete, ready-to-use Sales Campaign



Within its covers are countless suggestions for increasing your refrigerator sales . . . Definite plans for campaigns . . . Complete instructions for holding an ice cream making demonstration . . . A plan for advertising . . . Literature . . . Signs . . . Stationery . . . Letters . . . Invitations . . . and a real sales plan for getting refrigerator prospects!

**North—South—East—West
—they are turning to Sparklets**

Reports of Sparklets assistance to refrigerator distributors are now coming in from all sections of the country. From Burlington, Vermont, to San Francisco and from Vancouver to St. Petersburg, Florida, comes news of refrigerator sales increases because of Sparklets. This, in nine short months after the discovery of Sparklet "Aeration" as the one successful means of making ice cream in the freezing tray!

Join this happy army of merchandisers who have profited by Sparklets offer. Write the nearest Sparklets office.

SPARKLETS

INCORPORATED

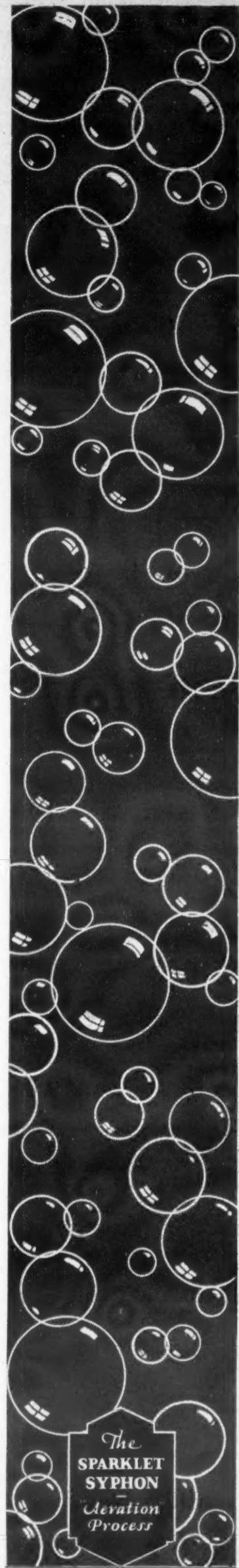
BOSTON, 1105 Statler Building
ST. LOUIS, Victoria Building

NEW YORK, 19 West 44th Street, Headquarters
CHICAGO, 900 Rush Street
ATLANTA, 411 Norris Building

SAN FRANCISCO, 277-285 Seventh Street
DALLAS, Allen Building

Purveyors of the Sparklet Syphon, Sparklet Bulbs and Sparklet Syrups. Discoverers of the Sparklet "Aeration" method of making real ice cream in the freezing tray, which has been endorsed and approved by the following:

Manufacturers: General Electric, Servel, Kelvinator, Zerozone, Copeland, Absopure, Welsbach, Electro-Kold, Holmes, Universal, Norge
Bureaus: Good Housekeeping Institute, Priscilla Proving Plant, Delinator Home Institute, Household Searchlight, New York Tribune Institute, Shrine Service



Section of Sparklets Bulb Department at Edmonton, England plant

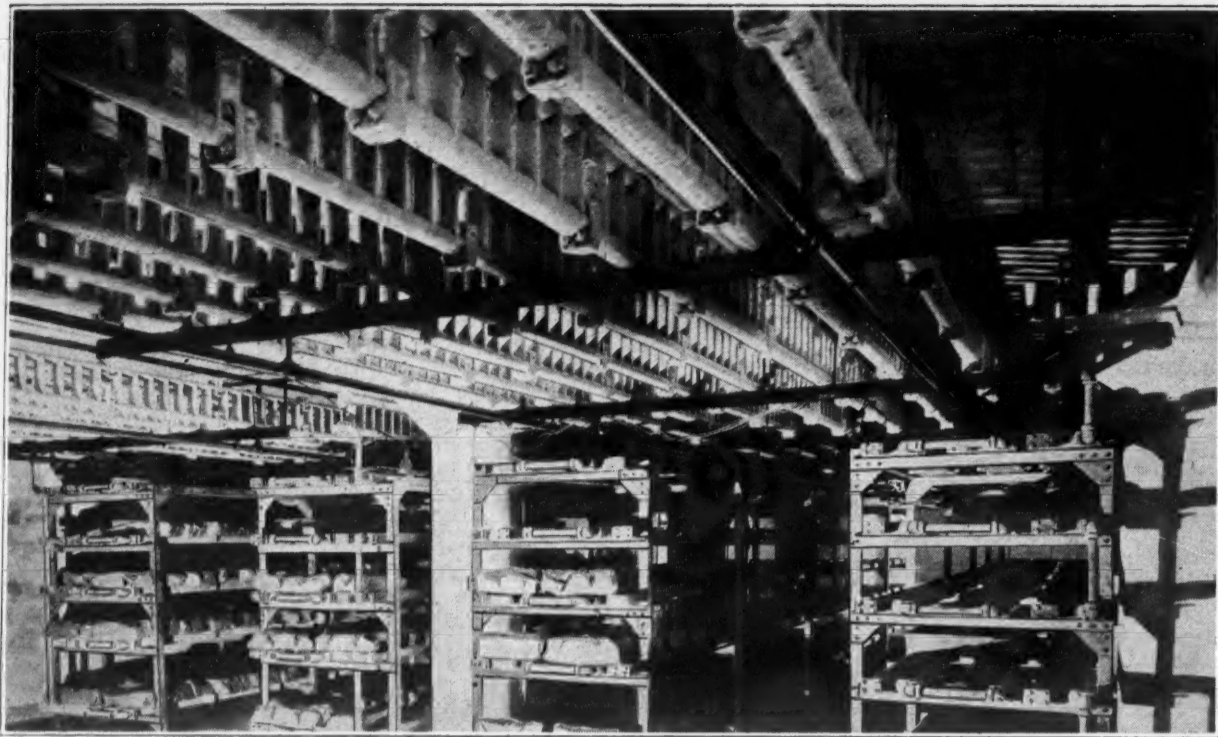


Administration Building of Sparklets plant, Edmonton, England



Casting Sparklet Syphon Heads in one of the twelve world plants

American Radiator Sections Maintain 10° Below Zero Temperature in Packing Plant Freezer



The above photograph shows one of a number of rooms equipped with American Radiator sections by the Cudahy Packing Company at their St. Paul Plant. This particular room is a sharp freezer in which a temperature of 10° below zero is maintained. As shown, a portion of the meat stored in this room is placed on shelves which are built up of radiator sections.

The ammonia is first expanded in the sections in these shelves and then trailed to the sections shown on the ceiling of the room, which not only do their portion of the work necessary to maintain the required temperature in the room, but serve as an accumulator as well, preventing any liquid going back to the compressor.

There are a total of about 6,500 sections installed in this plant, of which number nearly 4,000 are operating on direct expansion, the balance being used for brine circulation.

ELECTRIC CLUB OF PHILADELPHIA HOLDS REFRIGERATION SHOW

A REFRIGERATION SHOW, sponsored by the Electric Club of Philadelphia, opened in the Edison Building, Philadelphia, April 22, and will continue through April 27.

Ten companies are taking part. The companies with the machines they distribute are Schimmel Electric Co., Copeland; Hajoca Corporation, Electrolux; J. J. Pocock, Frigidaire; Judson C. Burns, General Electric; Kelvinator-Philadelphia, Inc., Kelvinator; Merchant & Evans, M. & E.; Norge Company, Norge; Philadelphia Electric Co., Servel; United Gas Improvement Co., Welsbach; and Geo. B. Newton Coal Co., Zerzone. Each company will show three refrigerators.

Each day two of the refrigerators are placed on the platform from which lectures and demonstrations are given and used in connection with the day's program.

Ernest Hedler, president of the Electric Club of Philadelphia, is opening each session and is followed by a talk by a distributor of one of the makes of units shown. Each afternoon a speaker talks on "Automatic Refrigeration from a Woman's Viewpoint." A demonstrator gives about thirty minutes each afternoon to explaining some food preparation shown in the refrigerator on display. The evening programs are planned to be of interest to both men and women.

Publicity was given the show by local newspaper advertising, newspaper publicity, direct mail advertising, local radio broadcasting, and show window and truck banners.

Among speakers at the show are Mildred Maddocks Bently, director, Delineator Home Institute; Florence Brobeck, associate editor, McCall's; Ada Bessie Swan, director, home service, Public Service Co., Newark, N. J.; Nancy Carey, Philadelphia Public Ledger; Anna B. Scott, Philadelphia Inquirer; Vivian J. Schaal, Home Economist, Philadelphia Electric Co.

NEW CORK CONCERN IS FORMED BY BIG MERGER

A merger in the cork industry is announced through the formation under the laws of Delaware of Crown Cork International Corp., which will acquire and develop companies engaged in the bottle crown business and other branches of the cork industry outside of the United States.

This new company has purchased control of companies in Germany, Spain and France and will acquire all the principal subsidiaries owned by the Crown Cork & Seal Co., of Baltimore, Md., and the Crown Cork & Seal Co., Inc.

The company will own either directly

or through subsidiary companies a controlling interest in the following companies: The Crown Cork Co., Ltd., of Southall, England; the Crown Cork Co., Ltd., of Rio de Janeiro, Brazil; the Wallis Crown Cork Co., Ltd., of London; Crown Cork & Seal Co., Ltd., of Toronto; the Fulsam Manufacturing Co., of London; Hijos de Habender, of San Feliu, Spain; Habender Soehne, of Mannheim, Germany; Korkfabrik Frankenthal-Bender & Co., of Frankenthal, Germany, and Societe du Bouchon Couronne, of Paris, France.

DOHERTY SALES TOTAL 354 UNITS IN JANUARY

The public utility division of the Henry L. Doherty & Co., New York, N. Y., reports that 354 electric refrigerators were sold during the month of January by its subsidiaries. The Toledo Edison Co., Toledo, Ohio, was first in sales with a total of 99 units, while the Public Service Co. of Colorado reported a total of 59 sales for the month.

GODFREY STRELINGER JOINS KELVINATOR SALES DEPARTMENT

Godfrey Strelinger, for many years an automobile executive with the Dodge, Hayes and Chrysler organizations, and later a distributor of electric refrigeration, has joined Kelvinator Corp., Detroit, as special representative in the sales division.

In his previous business connections Mr. Strelinger was for three years in Dodge Brothers' sales department, for two years assistant sales manager of the Hayes Manufacturing Co., and then joined the Maxwell-Chalmers-Chrysler Corp., where he became district manager. For the past three years he has been Copeland distributor with headquarters in Detroit.

ELECTRO-KOLD ORDERS JUMP 14% OVER MARCH QUOTA

Electro-Kold Corp., Spokane, Wash., reports that orders received at the factory in March were 14% in excess of the quota set for that period. The general sales quota for 1929 has been increased 50% above that of 1928. This increase in business has necessitated the employment of a second shift at the factory.

H. C. Benchley Joins Sales Force of Rhinelander Refrigerator Co.

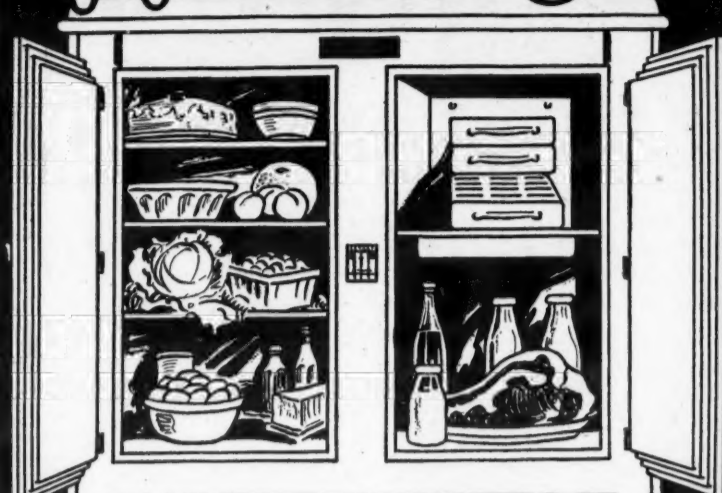
The Rhinelander Refrigerator Co., Rhinelander, Wis., recently appointed H. C. Benchley as sales representative. Mr. Benchley was formerly associated with the Rex Manufacturing Co., Connersville, Indiana.

Copeland Distributor Opening New Display Rooms in Seattle

Harper-Magee, Inc., Seattle, Wash., distributors of Copeland electric refrigeration, are opening new display rooms in the Benjamin Franklin Hotel in Seattle.

Wayne

Electric Refrigerator



DEALERS

The new series of Wayne Electric Refrigerators offer you Real Profit, dependable service and positive consumer satisfaction!

REQUESTS FOR

Full information regarding open territories will be held in strict confidence!

WAYNE HOME EQUIPMENT CO.

Main Office:
Fort Wayne, Ind.

New York Office:
1780 Broadway



Keep these sales points on your finger tips...
they are the Outstanding Advantages
...of a Dry-Zero Insulated Cabinet



DRY-ZERO Insulated Cabinets have such obvious advantages that it is well to keep at least these four major selling points well in mind. They are the advantages that apply particularly to your customers... advantages which will drive home the fact that your automatic refrigerator is finer... more economical... more modern... and more satisfactory, because it is placed in a cabinet that has the greatest possible resistance to entering heat.

Because Dry-Zero is the most efficient insulant in commercial use (20% to 40% more effective in its heat excluding qualities) units installed in Dry-Zero Cabinets do not have to operate as much to keep the refrigerator in perfect condition. A 15% reduction in running time is made possible.

Less running time means less wear and tear... less service... lower service charges. Because Dry-Zero is one of the cleanest and most

sanitary insulants known—Dry-Zero Insulated Cabinets are free from troublesome insulation odors. Dry-Zero is absolutely odorless... There is no possibility of odors developing from the insulation. Dry-Zero in refrigerators will not rot or otherwise deteriorate... Dry-Zero Insulated Cabinets have permanent efficiency. This is a point that is most thoroughly appreciated by prospective refrigerator purchasers.

We would be very pleased to send you the scientific background behind each and every one of these sales advantages and to furnish you with samples of this remarkable insulant. It is a claimed the greatest advancement in refrigeration science of the age.



DRY-ZERO CORPORATION
130 S. Wells St., Chicago, Ill.

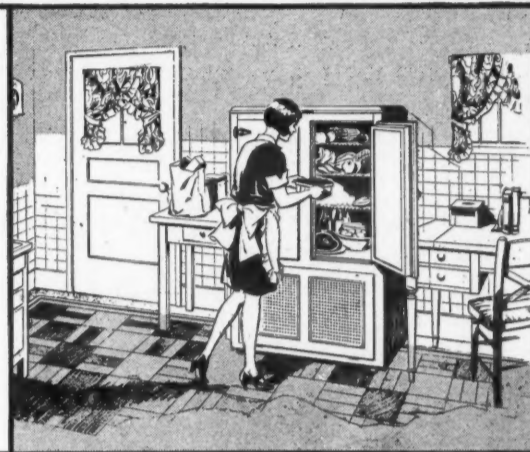
DRY-ZERO

DEALERS SAY:

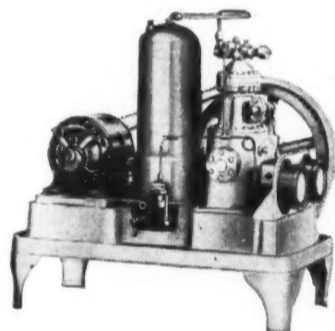
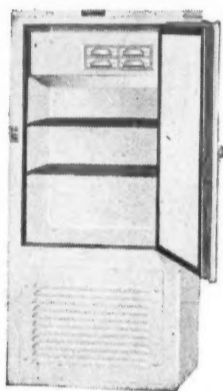
"The two Servel lines make every home and shop a prospect!"



Each one—commercial and domestic—is uncovering prospects for the other, and between the two a year-round business is assured to the Servel dealer

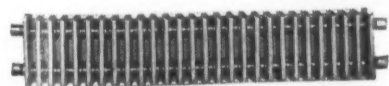
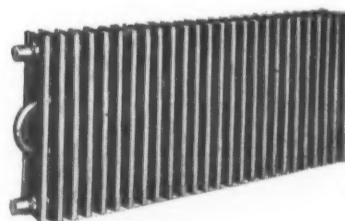


There are Four household models of the NEW SERVEL. This has 5 cubic feet of storage capacity.



One of the Commercial Machines, Model 75-AW Compressor. Designed for use in soda fountains, grocery and meat refrigerators, florist boxes, display cases, multiple apartment installations, milk coolers and circulating water systems.

Two of the Ten Sizes of chilling sections used in Servel commercial installations. From these you can see how easily they can be adapted.



Water Coolers, Too! There are those that cover the field adequately. And this water cooler business is getting better all the time!



This seal on a store's door or window guarantees fresh, perfectly kept food to customers.

NO WONDER dealers are so enthusiastic about the Servel line! It gives them a tremendous opportunity—one that any live business man is bound to make real money on.

They're making it, too! They can't help it. Just think what they have—two complete lines—domestic and commercial—that cover absolutely every refrigeration need. Servel dealers can go after every bit of business, confident that Servel will meet the prospect's requirements exactly.

Domestic models for every household

Just look at the NEW SERVEL household line. It covers the needs of families of every size. Models range from 5 to 10 cubic feet storage capacity.

And what selling features they've got! Whisper-like quietness . . . big ice-making capacity . . . steadily maintained temperature . . . surprisingly small current consumption . . . operation the user can count on all year round.

More than this, the NEW SERVEL is specially designed for women. Lots of small details have been carefully worked out to make it easier and more convenient to use. And just these little refinements, once they're pointed out, have a big appeal to the woman who has to use her refrigerator a hundred times a day.

The NEW SERVEL cabinets are beautiful, too . . . with a new 5-coat, baked-on finish, absolutely chip-proof. All hardware is chromium-plated. And these cabinets are wonderfully built! Heavy cork-board insulation, moisture-proofed with hydrolene; hand-fitted hardwood frames; seamless porcelain liners. In every detail the finest electric refrigerators on the market.

A big commercial opportunity

Unique in modern refrigeration is the Servel Commercial Line. It gives the dealer a wonderful chance for a real volume of business—because it reduces commercial refrigeration to the simplest terms. It simplifies estimating. It simplifies engineering. It simplifies installing. And, once it is installed, its performance makes every customer a booster.

Take Servel machines, for instance. They are heavily built to give years of reliable service. They are

slow-speed—to minimize frictional wear. They require no thermostats. And they are unusually quiet—a big selling argument for cafeterias where the unit is under the counter.

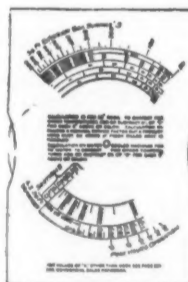
Flexible—easy to install

But the new all-copper chilling sections are what make the Servel system so flexible. Practically any installation can be built up from a stock of these sections. They come in a wide range of sizes—and they're so light that one man can erect any ordinary job. Think what that saves in erection costs!

Engineering simplified

Engineering? Why, that's been made so easy that a salesman can complete most of the preliminary work while he's actually talking to the customer.

The new Servel CALCULATOR makes this possible. It's a simple device that does virtually all the calculations on ordinary jobs. For special installations, of course, the Servel engineering department is always at the dealer's service.



This Servel Calculator

saves countless wrestling matches with figures. It just about eliminates all the work attached to the preliminary engineering on commercial jobs. And it is easy to carry . . . pocket size.

Can you wonder, then, with this big opportunity, that present Servel dealers are reaping profits they never knew the refrigeration business could produce? Can you wonder, too, that the Servel franchise is being eagerly snapped up in territories where it is offered?

It's a proposition every progressive business man can well afford to consider carefully. Think it over. Then write us for complete information. There are some very good districts still open in our national set-up.

SERVEL SALES, Inc.

EVANSVILLE, INDIANA

Refrigeration Plays Important Part in Conditioning of Air for Offices in Detroit Skyscraper

New Union Trust Bldg. Utilizes Three Large Carbon Dioxide Machines in Its Huge Air Conditioning Plant

THE application of refrigerating equipment to the air conditioning in Detroit's newest skyscraper, the Union Trust Building, which was recently opened, indicates the growing market for large refrigerating machines in thousands of other large office buildings, theatres and department stores being built in this country. Three 250 ton carbon dioxide refrigerating units, one 20 ton and one 16 ton unit have been installed in the Union Trust building by the American Carbonic Machinery Co., Wisconsin Rapids, Wis. The large units are used to cool the water in the dehumidifiers, while the smaller units cool the drinking water and provide refrigeration for the restaurant on the thirty-second floor.

Air conditioning of 19 floors of space required the installation of the machinery with combined capacities of 750 tons, suitable for cooling 310,000 cu. ft. of air per minute. Windows on the first

humidity. In the main banking room, conditioned air enters through openings at the bottom of the tellers' cages and through ornamental openings in the marble columns.

All this equipment is designed to heat the rooms at the breathing line to 70 degrees when the outside temperature is zero and to cool all rooms in summer to a temperature of 80 degrees or less in weather having a dry-bulb temperature of 95 degrees and a wet-bulb of 73 de-

through the dehumidifiers, the air is washed and its moisture content definitely fixed. In summer, the temperature of the room supply is fixed by mixing the dehumidified air with recirculated air. In winter, sufficient heat is added to supply the heat loss from the building by means of booster heaters, placed in the supply ducts. These heaters serve individual rooms or groups of rooms and are located with reference to their respective exposures.

Many engineering difficulties were encountered in constructing the ducts through which conditioned air circulates throughout the building. Because of the low headroom in various floors, careful figuring and design were required to obtain even distribution of air in all departments served. Ducts had to be constructed in different shapes and sizes to get around corners and through beams where space was restricted so that the strength of the framework of the building would not be sacrificed.

Because of the large outside surface of the building, with its exposure to wind currents, the air-conditioning system was split up into six units from the sixth to the sixteenth floors, so that the temperature of any section of the building could be regulated regardless of wind direction and velocity.

Temperature is carefully watched throughout the entire building. Long range thermometers are located in various parts of each floor and all temperatures indicated at every one of these points can be read in either of two locations in the building. These central locations for observation of building temperature are in the office of the building superintendent on the eleventh floor and in the third basement. Any necessary temperature control may be directed from either of these two points.

Another feature of the air conditioning is the addition of ozone to the conditioned air to give it pep. The treatment which supplies ozone to the entire system is automatically controlled by aquastats located in suction and discharge fans of various air washers.

All Combinations of Pipe and Tube Ends

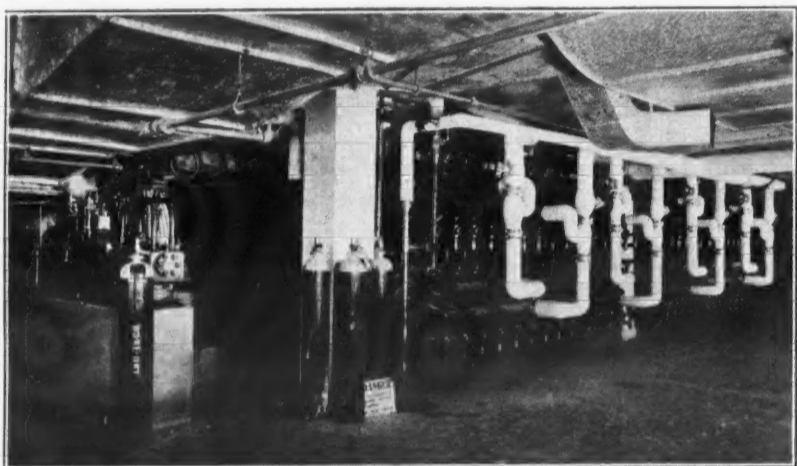
Commonwealth is prepared to furnish all possible combinations of pipe and tube ends in brass refrigeration fittings. All standard sizes—and many specials—are in stock for immediate shipment. All are available upon short notice.

Commonwealth refrigeration fittings are made exclusively from brass forgings and brass rod. The compact grain structure and great tensile strength thus obtained together with unusual precision in machining threads and seats, insure tight, seep-proof connections for the life of your installations.

Catalog R-30 will be mailed upon request. Be sure to send sketch or sample with inquiries regarding special fittings.

Commonwealth Brass Corporation
5835 Commonwealth Ave. Detroit

**COMMONWEALTH
FITTINGS
BRASS**



Condensers in the New Union Trust Building, Detroit

16 floors are designed to remain closed permanently in winter and summer and play no part in the air conditioning process, which will be automatic on these floors and in the three basements. Temperature is to be maintained as near to 70 degrees as possible throughout the year. Humidity also will be regulated and ozone mixed with the incoming air.

The air conditioning equipment is divided into several units to handle different sections of the building. At the south end of the sixth floor are seven fan units. Six supply conditioned air to the space from the seventh and the sixteenth floors, inclusive. The seventh takes care of the air conditioning of the directors' room in the north portion of the sixth floor.

In the third basement is another unit, serving the main lobby, the first floor and the security vaults in the first and second basements. In most of the offices, the outlets for conditioned air are on the ceiling. The great height of the main banking room, 45 feet, and of the main lobby made necessary much special equipment to maintain even temperatures.

The problem was greatly complicated by the fact that outside air constantly enters through revolving doors and is drawn in by the suction of the high-speed elevators. This made even distribution of air difficult, so that special ducts and fans were designed to maintain the desired temperature and

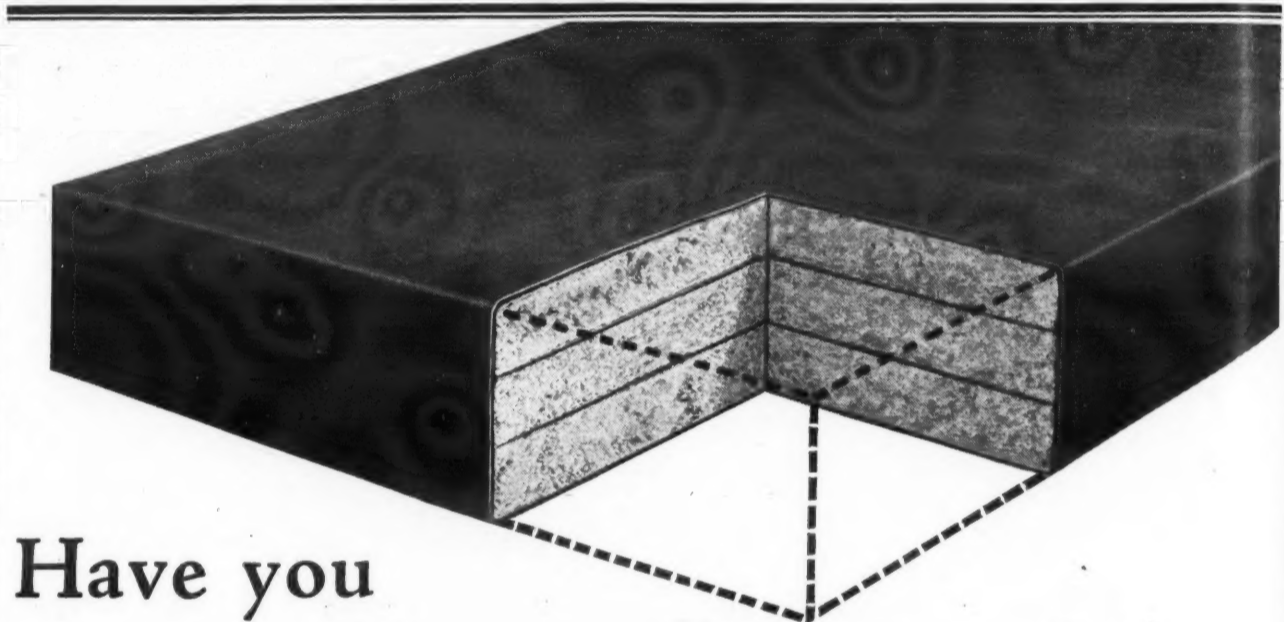
greens. In summer a relative humidity not exceeding 55 degrees will be maintained. In winter humidity will not be less than 40 degrees.

The refrigerating machines are located in the third basement and they supply the means for cooling the water in the dehumidifiers of the several air conditioning units. These refrigerating units are mounted above the floor on cork foundations. This unique type of construction was necessary because it was impossible to go through the floor of this basement, which is 50 feet below the street level, due to water conditions.

The 20 ton refrigerating unit refrigerates the drinking water used on all floors, which have two drinking fountains. The 16 ton unit provides refrigeration for the coolers in the restaurant on the thirty-second floor. All ice used in the building is made in an ice maker which is also cooled by this machine.

Fresh air for air conditioning units is drawn in through louvers at the fourth and sixth floor levels by supply fans. These same fans draw recirculated air back through systems of ducts, connected to the return air grilles in the rooms. Part of this returned air is mixed with fresh air to maintain a temperature above freezing at the entrance to the dehumidifiers.

The air then passes through an automatically controlled tempering coil which heats it to the proper temperature before entering the dehumidifiers. In passing



Have you examined a sample of Balsam-Wool Sealed Slabs for Refrigerator Insulation

To look at a sample of this new refrigeration insulation is

to see why it can add so much to the efficiency of mechanical refrigerators.

These sealed, waterproof Slabs made in any specified size are quickly put in place. They combine the desirable features of both flexible and rigid insulations. To the high insulating efficiency of flexible Balsam-Wool has been added the ease of handling and installation of the rigid materials.

The average thermal conductivity of Balsam-Wool does not exceed 6.0

Insulation

B. T. U. per square foot, per 1" thickness, per 24 hours, per 1° Fahrenheit difference in temperature—making it an extremely efficient insulant.

Never before was such inexpensive, efficient, easily installed insulation available for refrigerators.

Free Sample

Send for a sample Balsam-Wool Sealed Slab. Then consult with our engineers who will aid you in working out the economical production of a more efficient refrigerator.

Midwest Refrigeration Co. Effectively Uses Large Window Display Space



Night View of Midwest Refrigeration Co. Store, Des Moines

A corner location gives the Midwest Refrigeration Co., Des Moines distributors of General Electric refrigerators, excellent facilities for window display. Two sides of the room are of plate glass. The display room is 30 by 90 feet. It contains a stage with canopy and black velvet drapes.

On the second floor of the building are general offices of the company, private offices, a sales school room, a testing room, and several ware rooms. The Midwest Refrigeration Co. was established in March, 1928. It operates in seventy-five counties in Iowa.

WOOD CONVERSION COMPANY

Insulation Division of Weyerhaeuser Forest Products • Mills at Cloquet, Minnesota

Industrial Sales Offices: 360 N. Michigan Avenue, Chicago

101 Park Ave., New York

938 National Press Bldg., Washington, D. C.

3084 West Grand Blvd., Detroit, Michigan

Manufacturers of Balsam-Wool Insulation for Domestic Refrigerators, Motor Buses and Airplanes; Balsam-Wool Refrigerator Car Insulation and Steel Car Insulation; Balsam-Wool Standard Building Insulation

Commercial

CABINETS BY

Seeger
SAINT PAUL

are being sold with

Kelvinator
ELECTRIC REFRIGERATION

Illuminated Signs are Silent Salesmen Carrying the Message of Refrigeration to the Public



The four electric signs shown here were built and erected by the Claude Neon Federal Co. of Chicago, Ill.

JUDSON C. BURNS CO. LAUNCHES \$1,000,000 DRIVE ON G. E. UNITS

ON APRIL 1, the Judson C. Burns Co., Philadelphia, Pa., distributors of General Electric refrigerators, launched a million dollar sales campaign which will close on June 1. In order to bring the drive to a successful close 68 General Electric refrigerators will have to be installed in Philadelphia homes on every one of the fifty-four actual selling days.

A get-together meeting was held at the Benjamin Franklin Hotel in Philadelphia on April 18, and all dealers and their retail salesmen who are registered in the \$5,000 contest attended the rally and dinner. Every salesman who sells five refrigerators is entitled to join the red star quota club.

Salesmen who sold from five to twelve General Electric refrigerators during the first week of the campaign were:

Frank Andrews, Norristown; Sam Franks, Germantown; C. B. Wilson, Wilmington; Charles Klopp, main store; John Burkett, Flemington, N. J.; Dave Echil and L. A. Waugh, main store; J. R. Albertson, Bryn Mawr; Paul Anderson, Ardmore; Howard Steele, Germantown; Roy Steele, Darby; Roy Denman, Frankfort; Charles McConnell, 60 & Market; Allen Kirschner, Germantown; A. D. Anderson, Chester; E. S. Allen, Camden; Paul Mills, Doylestown; Dave Rosen, Chestnut office; Sam S. Laughbridge and Charles L. Ingram.

Springfield Distributor Opens New Store in Hartford

Charles Rice, Inc., Springfield, Mass., Copeland distributors, has opened a new store at Hartford, Conn., under the management of E. H. Wells. The new showroom at Hartford is similar to that of

the home office in Springfield, which has been characterized as one of the most beautiful in New England. Among recent sales is the equipment of the Oyster Bay Grill & Restaurant, a 500-pound ice maker, two Seeger cabinets, and two walk-in boxes. Harold H. Holmes joined the Rice company last February as sales manager.

SALESMEN TOSS COIN WHEN BIDS ARE IDENTICAL

A toss of a coin gave the Pacific Asbestos & Supply Co., Portland, Oreg., the contract for the cold storage room installation at the new creamery of the Farmers' Co-operative Creamery Association, Camas, Wash. When the bids were opened by the directors it was found that those of the Asbestos & Supply Co. and the Harris Ice Machine Co. were identical. At first it was thought it would be necessary to call for new bids, but finally the salesmen for the two companies decided to leave the matter to the flip of a coin.

STORZ ELECTRIC CO. GETS \$20,000 CHAIN STORE JOB

Storz Electric Co., Omaha distributor of General Electric refrigerators, have recently received the order for a \$20,000 installation of refrigerators in a chain of retail stores. The Rosse Wholesale Grocery Co., Fairbury, has incorporated to enter the retail chain store field. Fifty stores are to be established this year, in the South Platte section of the state, it is planned, and General Electric D-B models will be installed.

Servel and Filtrine Share Display At National Business Show



Servel shared a booth at the National Business Show held recently in New York City, with the Filtrine Manufacturing Co. A 22-A Servel unit with a No. 2 Filtrine cooler supplied water to the porcelain bubbler used by the general public. The center of the display was an expansion coil in a glass water jar. A 12-A unit operating this coil froze a cake of ice inside the jar.

ELECTRIC REFRIGERATION SHOW BEING STAGED BY J. L. HUDSON CO., DETROIT

J. L. Hudson Co., large department store of Detroit, opened an Electric Refrigeration Show, April 22. Five makes, those carried by the store, will be on display with a number of models of each make.

General Electric, Frigidaire, Electrolux, Copeland, and Kelvinator will be exhibited in the auditorium of the store on the twelfth floor. Effective decorations with each refrigerator against a separate display background take up much of the room. At one end of the auditorium is a platform from which lectures and demonstrations are given.

Among the lecturers and demonstrators appearing are Miss Helen M. Whitson, Good Housekeeping Institute; Miss Osee Hughes, Associate Professor of Home Economics, Michigan State College; Mrs. Helen Van Meter, former instructor in Home Economics; Miss Mariquita Dygert, The Detroit Edison Co.; Miss M. E. Kirk, laboratory expert, Kelvinator Sales Corp.; Miss Verna L. Miller, home economics expert, Frigidaire Corp.; G. McLarty, Electrolux Sales Engineer; Miss Eleanor Sense, home economics expert, Charles B. Knox Gelatin Co.; and D. C. Schneider, The Wagner Mfg. Co.

A demonstration of waterless cooking is being given each day. Use of gelatin in frozen deserts and salads is demonstrated daily. A microscopic display of the growth of bacteria in foods, prepared by the Frigidaire Corp., is being shown.

WILLIAMS OIL-O-MATIC PLANS INTERNATIONAL CONVENTION, JUNE 3, 4

Williams Oil-O-Matic Heating Corp., Bloomington, Ill., will hold their fifth international convention at Bloomington, June 3 and 4. More than 3,000 are expected to attend the meeting. Last year, 2,700 attended.

C. U. Williams, president, says of the convention, "New products will include a cabinet-type stove and an inexpensive air circulating stove, both burning distillates, and an oil-fired water heater. In addition to our Oil-O-Matic and Dist-O-Matic oil burners, Dis-O-Stove, and Ice-O-Matic refrigerator unit, a larger, and in all probability, a smaller refrigeration unit, as well as the most complete line of cabinets we have ever displayed, will be shown."

The convention will be held in a newly completed building which completes a building program inaugurated in 1924.

C. C. LEE IS APPOINTED MANAGER FRIGIDAIRE MINNEAPOLIS BRANCH

C. C. Lee, formerly branch manager of General Motors' Oldsmobile division, Buffalo, N. Y., has been appointed manager of the Frigidaire Corp., for the Min-

nesota district, it was announced at a meeting of salesmen and branch managers at the Curtis Hotel, Minneapolis, Minn.

Mr. Lee succeeds J. L. Conover, who has been branch manager for three years and now will go to Oakland, Calif., where he will have charge of five Pacific coast branches. R. F. Callaway, Dayton, branch manager of the corporation, attended the meeting and announced the changes in personnel.

The office of the Minneapolis office is at 136 Tenth St., and is in charge of a territory embracing 85 dealers in Minnesota and Wisconsin.

FORT WORTH FRIGIDAIRE FIRM HOLDS BANQUET

Approximately forty members of the staff of the P. M. Bratten Co., distributors of Frigidaire in Fort Worth, Tex., were guests of the company at a banquet held at the Elks Club recently. The banquet, which was followed by a short discussion of sales plans and policies, was tendered in honor of the fine record established by these men during the first quarter of the current year.

MADISON, WIS., KELVINATOR DISTRIBUTOR HOLDS ANNUAL SPRING SALES CONVENTION

The annual spring Kelvinator sales meeting of the Harloff-Loprich Electric Co., Madison, Wis., was held at the Loraine Hotel in Madison, April 12.

Thirty-four dealers and salesmen attended. Otto Harloff, president, opened the meeting. Talks followed by Karl Loprich and representatives of Kelvinator Corp., Detroit.

Orders, surpassing all previous records, were placed after the meeting, it was reported. The Harloff-Loprich Electric Co. has distributed Kelvinator equipment in southern Wisconsin since 1923.

Sammy Mandel Has Copeland

Sammy Mandel, lightweight champion of the world, has recently had a Copeland refrigerator installed in his home at Rockford, Ill. The Ellis Electric Co., Copeland distributor at Rockford, made the installation.

LASSEN — TEMPERATURE — CONTROLS
— PRESSURE —
POSITIVE RANGE AND DIFFERENTIAL ADJUSTMENT
NON-DETERIORATING MERCURY TUBE SWITCH—MEET ALL REQUIREMENTS
GOODNOW & BLAKE MFG. CO. 3840 BEAVER STREET
DETROIT, MICH.

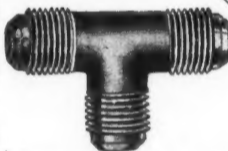
Three Aids To Better Joints

Imperial Tube Cutter



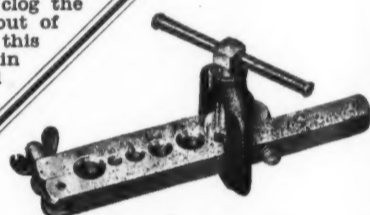
Here is a highly efficient tool for cutting copper, brass, block tin and lead tubing. It takes all sizes of tubing from 1/8" to 1 1/2" and makes a right-angle cut, quickly and cleanly, leaving no burrs or chips to clog the line. The tubing does not become out of round as when put in a vise. When this tool is used, tubing can be cut in half the time required by old methods and a far better job results. No. 94-F Tube Cutter, each

Brass Forgings



Accurately made to meet all the requirements of Iceless Refrigerator Manufacturers. Will not leak. Let us quote on your requirements.

\$2.50

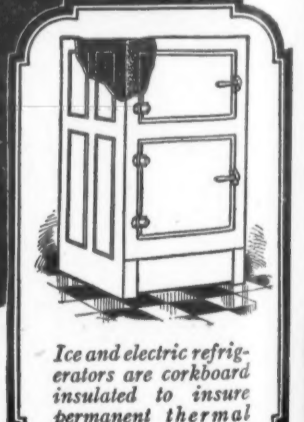


Imperial Flaring Tool

The Imperial Flaring Tool gives the proper flare and taper to the tubing for making up joints. A perfect flare means a tight joint, and this tool does the work in the least time and with the utmost simplicity. No loose dies—no vise necessary. No. 93-F takes tubing sizes 7/16", 3/8", 1/2", 5/8", 3/4", and 1", Each \$3.00. No. 95-F takes tubing sizes 1/4", 5/16", 3/8", 1/2" and 5/8", Each \$4.00.

IMPERIAL BRASS MFG. CO., 565 So. Racine Ave., Chicago, Ill.

Novoid Corkboard Insulation comes in 12" x 36" and 24" x 36" sheets, in 1", 1 1/2", 2", 3", and 4" thicknesses. It is shipped in sealed fibre containers, each holding 72 board feet of corkboard.



Ice and electric refrigerators are corkboard insulated to insure permanent thermal efficiency.

FROM the cabinet manufacturer's viewpoint it is economical to use the big double width sheets of Novoid Corkboard Insulation. They are 24" x 36" in size and are available in 1", 1 1/2", 2", 3", and 4" thicknesses. Figure the time saved in cutting and joining sheets. Added to that, they are light and easy to handle. They can be sawed and nailed like lumber. The edges of every sheet are clean and straight, they do not crumble in handling.

Novoid Corkboard Insulation resists moisture as well as the transmission of heat. Its higher insulating value makes it particularly suitable for cabinet and refrigerator construction. On request we shall be glad to send you a copy of Bulletin 280-E and a sample of Novoid Corkboard Insulation.

Novoid Corkboard Insulation

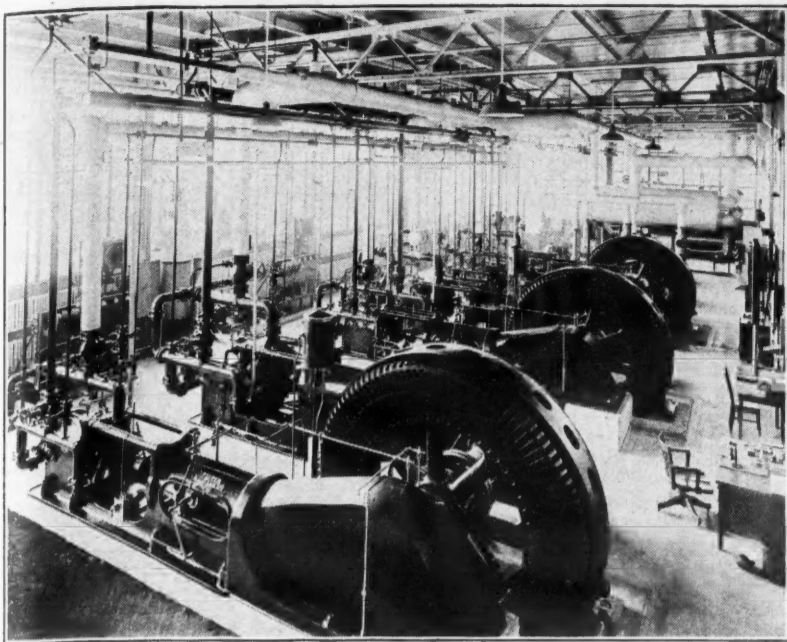
CORK IMPORT CORPORATION

345 W. 40TH ST. NEW YORK

"Permanent Protection for All Refrigeration"

ATLANTA BOSTON BUFFALO CHARLOTTE CHICAGO HARTFORD PHILADELPHIA ST. LOUIS TAMPA

Detroit Railway Harbor Terminal Uses Three Vilter Compressors



Three low temperature two-stage ammonia compressors, made by the Vilter Manufacturing Co., Milwaukee, Wis., are used in the engine room of the Detroit Railway Harbor Terminal Corp. Each compressor is 19 x 11 x 28 ins. and connected to engine type synchronous motors.

The low side consists of 1,700,000 cubic feet of refrigerated space obtained by two multipass shell and tube brine coolers 50 ins. in diameter and 20 ft. long, and 180,000 ft. of 2 in. brine piping.

The high side consists of three vertical shell and tube condensers, each 42 inches in diameter and 16 feet high.

Electric Refrigeration Aids Study of Halieutichthys and Hydromedusae

IF AN ELECTRIC refrigerator is used to preserve salmon, herring or sardines, it's doing one of the things ordinarily expected of it. But if it is used to preserve such inhabitants of the deep as, for example, Halieutichthys, Hydromedusae or Siphonophores, that's news.

To use an electric refrigerator for such unusual purposes is the plan of Dr. William Beebe, director of the Bermuda Oceanographic Expedition and writer of fascinating books on science. From April 1 on, for an indefinite period, the famous author and member of the New York Zoological Society, with a party of scientists, artists and photographers, will make his home on a mere speck of land in the Atlantic Ocean, Nonsuch Island, which is part of the Bermuda group, and which is due south of St. George's.

There, through the courtesy of the British government, he will have at his disposal, buildings originally constructed for hospital purposes but never used as such. They, or whatever part of them is needed, will be converted into living and working quarters for the expedition that plans to discover and study unknown and unnamed creatures of the deep.

An important part of the equipment Dr. Beebe is taking with him is a Servel S-7 electric refrigerator which is to be installed in a small house built of coral stone that reposes on a slab of cement. It will be used to furnish ice for table use and laboratory work, and to preserve strange fish and other ocean growth so that they can be painted for science and posterity in their true, natural colors. Also it will supply ice which in turn will be used to cool water to the low temperatures found at great depths. In this cold water, fish that ordinarily live and die in an inky darkness many fathoms down, will be kept alive for scientific observation and study.

The Servel is standard, except that it is regulated to maintain a lower temperature than is ordinarily used. Dr. Beebe explained that unless the fish could be preserved in a cold comparable

to that found in the deep waters where the creatures live, their vivid colorings would soon be lost. The new Servel, which was shipped from New York early in March, replaces one that Dr. Beebe used on other scientific expeditions.

ELECTRIC COOLING HAS GOOD FUTURE IN THE ORIENT

ELECTRIC refrigeration in Asia is destined to play its important role of protecting food and health, economically, as it does in the western world, according to John F. Stevens, Far East manager for Kelvinator Corp., Detroit, Mich. The people who live in those cities which lie within the belt in which infectious diseases are a scourge are beginning to learn that when foods are protected by electric refrigeration the chances of contracting such diseases diminish astoundingly. At Singapore, Manila, Hongkong, Shanghai, and other large ports of the Orient, the importance of adequate continuous refrigeration is already known. Even away from the sea-coast and amid surroundings of century-old splendor, ancient methods are giving way to modern scientific accomplishments.

In Siam, the King is taking the lead in welcoming electric refrigeration. Recently, B. Grimm and Co., local dealers for Kelvinator, installed two units in the main building of the Royal Palace at Hua Hin, while two others were placed in the Siamese and European kitchens. Two additional cabinets are now on the way from America to be placed in the kitchens.

In connection with the acceptance of electric refrigeration by the King of Siam, it is interesting to note that his brother, Prince Mahidol will receive his

medical degree at Harvard this June. His Royal Highness is actively interested in child welfare and enthusiastic over plans for the development of public health in his native land. In this work, his remarkable ability and sincere efforts should mean a great deal to the people of Siam.

Among the interesting Kelvinator installations in the Far East, one is found at the palace of the King of Cambodia, French Indo China. Concerning a recent visit to Pnom Penh, Mr. Stevens writes:

"We went to the palace at 4:00 p. m. and the King was on a rear porch, where he rests in the afternoon. He appeared when we went up on the porch, where he keeps his Kelvinator and greeted me by shaking hands and talking in French. For his benefit, I checked up on his cabinet model, and as I got down to put on the gauges he was right there with me, seemingly just as interested as I was.

"I found his machine in good running shape and afterward asked him if he would grant permission to go through the palace next day, as then it would not be open to the public and I wanted to get on my way to Bangkok. He told me if we would come at 8:00 a. m. we would be taken through and also told us to attend the water fête on the first floor, with the installation which would be very beautiful.

"When I left the palace the King was on the balcony off his sleeping room, and waved to me and thanked me for coming. It was altogether, a very interesting and unusual experience and I went away feeling more than ever the importance of electric refrigeration to homes of the Orient."

OPPORTUNITIES FOR FOREIGN TRADE LISTED BY DEPT. OF COMMERCE

Firms and individuals may obtain further information on the announcements listed below by applying to any one of the distributors or co-operative offices of the Bureau of Foreign and Domestic Commerce.

The asterisks (*) indicate that the inquirer would act as both purchaser and agent.

- *37752 Refrigerators, household. (Argentina)
- *37752 Refrigerators, household, electric. (Argentina)
- *37756 Household electric appliances. (England)
- 37678 Refrigerating equipment and machinery. (Gibraltar)
- *37754 Refrigerators and vacuum cleaners, electric. (Sweden)
- 37760 Refrigerators, household, electric. (Canada)
- 37799 Refrigerating machine and ice-making equipment. (Greece)
- 37931 Ice plant or refrigerating outfits. (Ecuador)
- 37828 Ice-making machinery. (Peru)

KELVINATOR-SYRACUSE OPENS FOURTH ANNUAL SALES MEETING TODAY

The fourth annual sales convention of Kelvinator-Syracuse, Inc., distributors of the Kelvinator electric refrigerator for western New York opens today at the hotel Onondaga. One hundred seventy-five Kelvinator dealers with their salesmen are expected to attend.

Several executives from the Kelvinator factory in Detroit are to be present to address the salesmen. Among these are H. W. Burritt, vice-president; C. M. Armstrong, vice-president of ReDisCo; J. S. Sayre, domestic sales manager and Earl Lines, advertising director.

Arden Yinkey of MacManus, Inc., in charge of Kelvinator national advertising and V. E. Brace representing the Leonard Refrigerator division of Kelvinator will also be among the speakers.

Motion pictures of the Kelvinator in the process of manufacture and use will be shown the assembly under the direction of Mr. Lines.

The business session will be opened at 10:00 a. m. by J. F. S. Meeham, vice-president of the local company.

Modern Soda Fountain Enhances Appearance of Tea Shop



The Minerva Tea Shop, New York City, shown above has been equipped by the American Soda Fountain Co., Boston, Mass.

Charles C. Thomas Joins Engineering Staff of Kelvinator Corp.

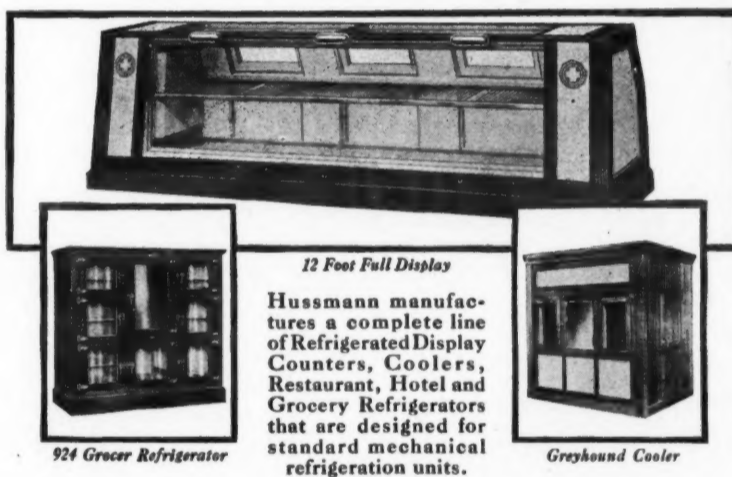
Charles C. Thomas, formerly in charge of engineering for Copeland Products, Inc., manufacturers of the Copeland electric refrigerator, has joined the engineering staff of the Kelvinator Corp., it was announced today by George W. Mason, president.

Thomas, a graduate of the University of Michigan, has had wide experience in the refrigeration field as well as in the automotive industry, having been connected with the latter for nearly a decade.

He first became identified with electric refrigeration in 1914 when he was manager of the refrigerating machinery division of H. W. Johns-Manville Co., Philadelphia, distributors of the Audifren-Singrum refrigerator, one of the pioneer electric cooling machines.

The Complete Hussmann Line is Engineered for

Mechanical Refrigeration



924 Grocer Refrigerator

12 Foot Full Display

Hussmann manufactures a complete line of Refrigerated Display Counters, Coolers, Restaurant, Hotel and Grocery Refrigerators that are designed for standard mechanical refrigeration units.

Greyhound Cooler

No matter what your own food display or storage problems (or those of your clients) are, somewhere in the complete Hussmann line there is a piece of equipment that will solve them positively and economically.

Every piece of Hussmann equipment is built to the same high standard of quality that has made the Hussmann name a guarantee of thorough satisfaction for a quarter-century.

This same high standard is also evident in the design and operation of Hussmann equipment. Correct engineering, and many patented features, combine to emphasize Hussmann's leadership in the food display and storage field.

Write now for complete information.



HARRY L. HUSSMANN

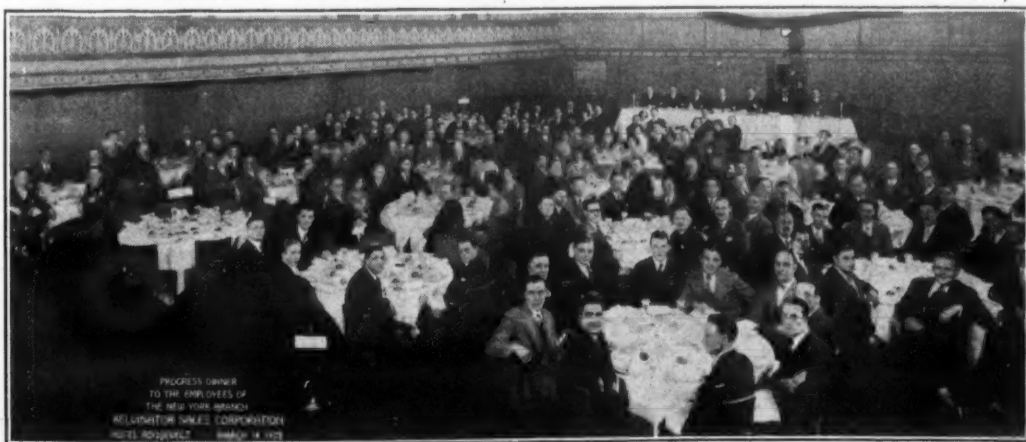
REFRIGERATOR DIVISION OF HUSSMANN-LIG-ONIER CO.

907-913 North Broadway, Saint Louis

Sales Offices in all Principal Cities

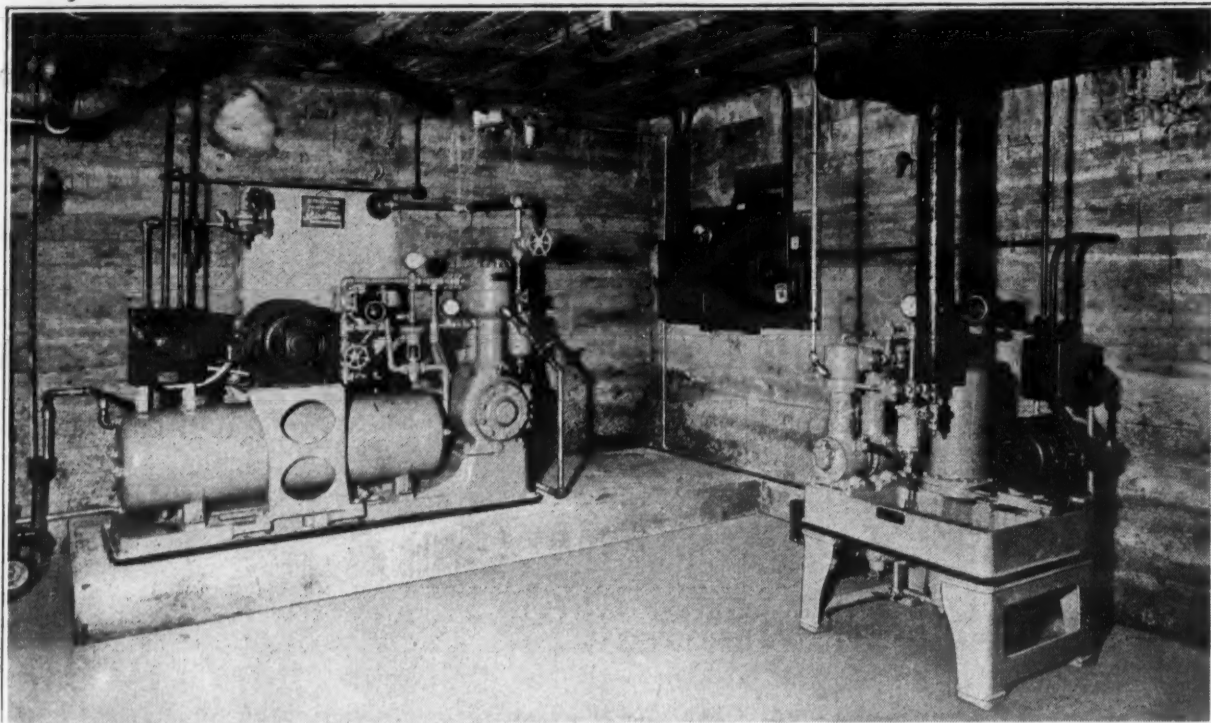
Factories at Saint Louis (2) Yardley, Pa.

Kelvinator New York Branch Employees Attend Progress Dinner Held at Hotel Roosevelt



More than 100 employees of the Kelvinator branch at Long Island City, N. Y., were present at a dinner held on March 14.

Storage and Freezing Rooms of Kenosha Fisheries Refrigeration by Lipman Machines



A Lipman, model 1010, is used by the Kenosha Fisheries Co., Kenosha, Wis., for refrigerating three cold rooms in the basement of their new \$50,000.00 building. There are two meat storage rooms and one fish freezing room.

As soon as the fishing boats deliver their catch, the fish are cleaned, weighed, and packed in cracked ice and placed in the freezing room. After freezing, shipments are made to cities and towns within a radius of 500 to 600 miles. The Ansorg Fish Co. conducts a retail store in connection with the wholesale business of the Kenosha Fisheries. The refrigeration for this department is handled by a Lipman, model 200, which cools 38 feet of top display cases and an 8 by 10 foot cooler.

Finds Dealers' Problem is Making Customer Foresee Possibilities And Limitations of the Machine

Intensive Selling Has Made the Electric Refrigerator a Profitable Specialty For Georgia Hardware Firm

By Archie Richardson

THE OLD tin bath tub will soon be followed into retirement by the ice refrigerator and in a generation or two the one will be no more in evidence than the other, in the opinion of J. W. Hammond, head of the Persons-Hammond Hardware Company, a hundred-year-old concern of Griffin, Georgia, and one of the numerous hardware stores in this state that have turned to electric refrigeration to recoup the losses in profit and volume that have been brought about by a series of bad years and by competition from varied sources.

For thirty years Mr. Hammond has sold one line of electrical goods, and when he learned that the manufacturers were to put on the market an electrical refrigerator he immediately took steps to obtain local representation, and as soon as the first machine was received put on an intensive selling campaign that has made the electric refrigerator the most profitable specialty sold in his store.

Starting out with the idea that the public is so thoroughly sold on the idea of electrical refrigeration that every one wants an electric and is prevented from buying only by the financial consideration, Mr. Hammond's first step in his sales work was to gather data that would show his customer that it is cheaper to buy and use an electric machine than it is to buy refrigeration from the ice man. He reasoned that a large portion of the more substantial people of the town would be ready to buy as soon as they were shown that they could enjoy the benefits of electric refrigeration, and the sales he has made in the last year have shown him to be correct.

Small Family Spends 12½ Cents a Day For Ice

The first thing he did was to find out how much the people of Griffin were paying for ice. A survey extensive enough to give a cross-section of the town showed that the average small family was spending 12½ cents a day, or \$3.75 a month, for ice.

Then the people who had previously bought and were using refrigerators, of all makes, were asked about their costs and how these costs compared with what they had previously spent for ice. After talking with every electric refrigerator owner in town, Mr. Hammond stated that he had not found one who would consider going back to the old method of refrigeration.

The data obtained in this way gave the strongest possible selling argument, the fact that the users of electric refrigeration in the town are saving money thereby, and it is this appeal that has enabled Mr. Hammond and his salesmen to close most of their sales.

"When I call on a prospect," said Mr. Hammond, "suppose he tells me that

his ice bills average \$3.75 a month. I can show him by the experience of home folks that with our machine his current bills will run probably not more than \$2 a month; that his current costs will be his only appreciable expense in

MOULDED CHICKEN MOUSSE ADDS VARIETY TO MENU

Beat 3 egg yolks and stir into 1 cup of clear bouillon, add ¼ teaspoon salt, ¼ teaspoon paprika. Cook in a double boiler until mixture begins to thicken.

Add tablespoon gelatine dissolved in ¼ cup cold water.

Mix thoroughly and chill.

Fold in 1 cup cream whipped, 1 cup diced chicken, 1 chopped pimento.

Turn into mold which has been rinsed in cold water and chill 3 hours in the refrigerator.

Any left-over meat such as lamb, veal, or ham may be substituted for the chicken.

connection with the use of the machine; and that figuring his operation expense, interest on money invested and depreciation, electric refrigeration will cost him no more than ice.

"That is a powerful sales argument in itself, but what we lay most stress on is the fact that we are not selling a substitute for an ice box, but something vastly superior that will give service beyond its range and that is in every way more desirable—all at no greater cost and often at an actual saving.

Public Can't Grasp What Refrigeration Really Is

"The idea of electric refrigeration is so radical and has come, fully perfected, so quickly that most people can't grasp what it really is. That is our biggest sales resistance. But the people who refuse to buy now will buy sometime in the future and will spend the rest of their lives wondering how they got along

when they had to depend on the ice man.

"The customer who buys an electric machine from us has it plugged into an outlet on his power line and then forgets about his refrigeration troubles. He doesn't even have to write another check at the end of the month, for the cost of the use of the refrigerator is merely added to his lighting bill. If he has any trouble, he has only to 'phone us and a service man will go out post-haste. If there is anything wrong that can't be taken care of by the service man, his refrigeration unit is taken out and returned to the factory and another put in its place; and unless he delayed notifying us there he has no reason why his refrigerator should even get warm.

"Our higher standards of living are most favorable to the selling of electric refrigerators. A generation ago a tin bathtub answered the needs of the average family, but today tiled bathrooms and plumbing costing \$500 and up are found in even the modest little cottages occupied by people of limited means. Heating plants that represent a good portion of the cost of the home are demanded today, by the people who a few years ago were satisfied with fireplaces and heating stoves. And as fast as they are coming to realize what the best in refrigeration means, they are putting in modern electrical equipment."

Mr. Hammond predicts that in his town fifty per cent of the homes will be equipped with electric refrigerators in the next ten years, and that the remaining fifty per cent will be rapidly reduced year by year.

One of the biggest problems of the electric refrigerator dealer is adjusting the customer's mind to the possibilities and limitations of the machine, Mr. Hammond has found. At first it is hard to make them realize just what refrigeration means, but after they get it into the home they often expect the impossible of it.

Women Put in Many Unnecessary Service Calls

In brief, the situation in regard to electric refrigeration is the same as radio went through a very few years ago. Many of the service calls on radio were from people who couldn't understand why they couldn't get little ten-watt stations a thousand miles away, and the like. Today, a large portion of the service calls on refrigerators are from women who think something is wrong when desserts don't freeze hard in an hour and call for a man to "fix" it. To keep her cold, she must be shown in a diplomatic way that she can't expect the impossible, even from such a versatile device as the electric refrigerator.

Soon after putting their first refrigerator on the floor, the store sent personal letters announcing the new line and asking them to come to the store for a demonstration to five hundred people. This mailing list was carefully selected and represented the substantial and progressive people of the town and community who could both afford to buy and who would appreciate such a machine.

Further invitations were given in a general way through half-page advertisements in the local newspapers, and when the people came they found a varied display of refrigerators toward the back of the store, and with it a drinking fountain that chills its water electrically.

Further publicity was given the new line by a series of attractively arranged

window displays, and for the last year a refrigerator window has been put in almost every two weeks.

John Hammond, son of the proprietor and just out of college when the new line came into the store, took a course of factory training in selling and servicing the machines. Others of the organization have since taken training courses.

All the salesmen in the store are now able to answer in a non-technical way any questions as to what the refrigerator will do; how the interior is kept almost freezing cold, how the little cubes of ice are made and how desserts are frozen. They are likewise familiar with costs of operation and when a customer mentions what he is paying for ice can quickly make a comparison with the cost of owning and using an electric unit.

The store is more than a hundred years old, but there are few in this section more up-to-date in its methods of merchandising. Almost every day in the year some members of the organization are out calling on prospects in the interest of electric refrigerators or other specialties sold here.

"The day when a merchant can sit on a keg of nails and wait for customers to come in is past," said Mr. Hammond. "Nowadays, if he doesn't go out and hunt up trade he doesn't have any."

"FERRO CHECK" TRACES MANUFACTURING PROCESS OF PORCELAIN ENAMEL

"Ferro Check" is the name of an interesting book recently published by the Ferro Enameling Co., Cleveland, Ohio.

The booklet takes up the raw enameling materials and tells how they are subjected to the Ferro check tests all the way to the finished product. It explains how this material is tested in the laboratory for actual composition. How over-smelting and under-smelting has been done away with by a check on time and temperature is explained.

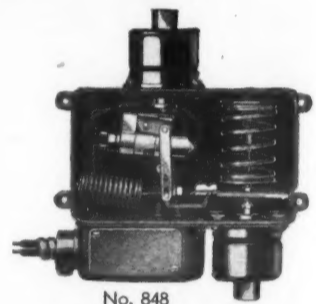
The laboratory tests begin a series which include that of the "shovel sample" taken from the batch of frit, the burning test, the fusion test, and a maximum strain test.

Throughout the book are many illustrations of the applying of the Ferro check. The frontispiece is an illustration in colors of the "Home of Ferro Enamel, Where Check Everything Is the Rule."

On the inside of both back and front cover is a map of the world showing where raw products used in Ferro enamel are obtained.

THE NEW IMPROVED MERCROID DUAL CONTROL

THE Dual Mercroid is two instruments in one, furnishing accurate automatic control for the compressor as well as high-pressure cut-out for safety. Can be supplied with the low side control to operate by pressure (or vacuum), or if desired, the low side control can be of the temperature type—any temperature from minus to 30° up.



No. 848
Dual Mercroid Control

In the new improved model the high side cut-out operates independently of the low side mechanism; thus any change in the cutting in and out points on the low side control does not affect the cutting-out point on the high side—or changes in the high will not affect the low. This design provides a wide differential on the high side.

This control operates with the well-known Mercroid Switch. There is no arc—no corrosion of contact—it operates on full-line current either 110 or 220 volts.

This control is especially suited for multiple hook-ups and ice-cream cabinets. Can be used on any refrigerant except ammonia.

Write today for complete information on this control, also the Solenoid Valve for water-cooled units and other Mercroid Controls for refrigeration work.

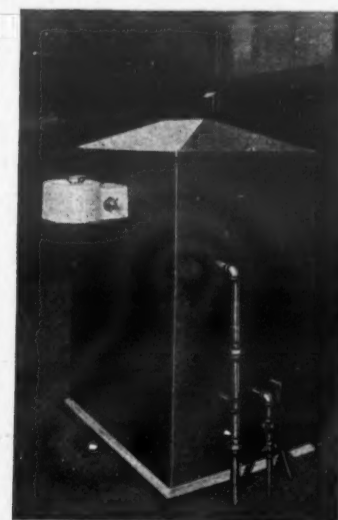
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per hour.
Cooled from
80° to 50° F.

WRITE
for
Catalog

Food and Its Preservation

Experiments to Find Other Than Organoleptic Tests of Incipient Food Spoilage

Graduate Student Reports on Physiological Activities of Bacteria as Influenced by Degrees of Refrigeration

EFFECT of refrigeration on relative increase in numbers of organisms and bacterial physiological activities, as reduction of various dyes, nitrate to nitrite, amount of acid produced, H-ion concentration produced, and amino nitrogen titration, was studied by Eleanor M. Murray, and results given in a master's thesis at the Iowa State College of Agriculture and Mechanic Arts.

Object of the work was given as (1) finding means other than sense tests of detecting incipient deterioration of food, (2) showing differences in bacterial activities at different temperatures, (3) comparing effect of correctly operated refrigerator with the common practice in the home, and, (4) determining ideal refrigerator temperature.

There exists a critical maximum temperature or narrow range of temperatures essential to effectual food preservation and any rise of even a few degrees increases the rapidity of deterioration while for every degree maintained below this maximum, an improved effect is obtained, is the general conclusion drawn.

Three refrigerators were used. The first one was refilled with ice only when a small piece remained. The second one was filled every twenty-four hours. The third was a refrigerator, not in best of condition, equipped with a Frigidaire cooling unit.

All foods were kept in covered containers so relative humidity of the storage space was not considered. The temperatures ran, in the first one, varying from 59 to 68 degrees; the second one remained at 59 degrees and the electric remained at 50 degrees. Room temperature was 77 degrees.

Several foods were tested but beef was experimented with more extensively than others. The beef was cooked 2 hours, salted, precooled 1 hour at room temperature, then placed in a sterilized jar and covered, leaving a large air space at the top. Aseptic technique was not attempted in this but work was carried out in a cleanly manner.

Methylene blue dye was found to be the most satisfactory for reduction tests. Methylene green and janus green were experimented with but methylene green was found to have so nearly the same results as methylene blue, and janus green showed reduction only after spoilage of the material could be detected by odor.

Reduction of methylene blue to a colorless compound was shown to be considerably influenced by temperature. It is explained that this test was based on the principle that bacterial reduction of methylene blue leaves it colorless, reduction occurring when bacteria, growing anaerobically, decrease the oxidation-reduction potential (the equilibrium of oxidation and reduction finally reached by the constant giving up and taking up of electrons by the atom. Since methylene blue is decolorized by reduction, the decrease of the oxidation-re-

duction potential is indicated by the loss in color of the dye.

In the check temperature the methylene blue was reduced in 3 days, in the carelessly iced refrigerator reduction occurred on the fourth day, in the well iced refrigerator on the seventh day, and in the electric refrigerator on the eighth day.

In testing with janus green, reduction occurred, in the same order, in 5, 6, and 9 days, and had not occurred on the eleventh day in the electric refrigerator. Organoleptic tests showed the food bad in odor and appearance in the same order, in 4, 5, 8, and 11 days.

Reduction of nitrate to nitrite correlated well with the bacterial counts, but was considered too sensitive to indicate incipient food spoilage.

The hydrogen ion concentration reached in the three refrigerators was not equal to that at room temperature. Lowest pH produced was in the well iced and electric refrigerators, 5.6. In the poorly iced refrigerator it was 5.4, and at room temperature was 4.7. The initial pH value was 7.81 making a drop in the two refrigerators of 2.2, in the other, 2.4, and 3.1 at room temperature. The maximum is reached in every case on the same day—the sixth.

Original acidity of the meat broth was increased within 1 day at room temperature and in the poorly iced refrigerator. In the well iced refrigerator it was increased in 2 days, and in the electric refrigerator in 4 days.

Original bacterial counts, made by inoculating veal infusion plates and incubating for 48 hours, showed an initial count of 120. In room temperature, the count was 1,648,000 on the second day and impossible to count thereafter. In the poorly iced refrigerator, the count on the second day was 77,900; third day, 157,000,000; fourth day, 164,000,000; seventh day, 271,000,000. In the well iced refrigerator, counts were: second day, 2,380; third day, 2,482,000; fourth day, 4,610,000; sixth day, 40,000,000; seventh day, 214,800,000. In the electric refrigerator counts were: second day, 645; third day, 32,400; fourth day, 55,000; sixth day, 105,000; seventh day, 13,010,000.

A resume of results given in order of room, poorly iced, well iced, and electric refrigerator shows: Methylene blue reduced in 4, 5, 8, and 9 days; excessive number of organisms in 3, 4, 7, and 8 days; nitrate reduction in beef broth with NO₂, added 3, 4, 6, and 7 days; odor and appearance bad in 5, 6, 9, and 11 days.

Finds Luxury Appeal Too Limited To Sell Modern Refrigeration

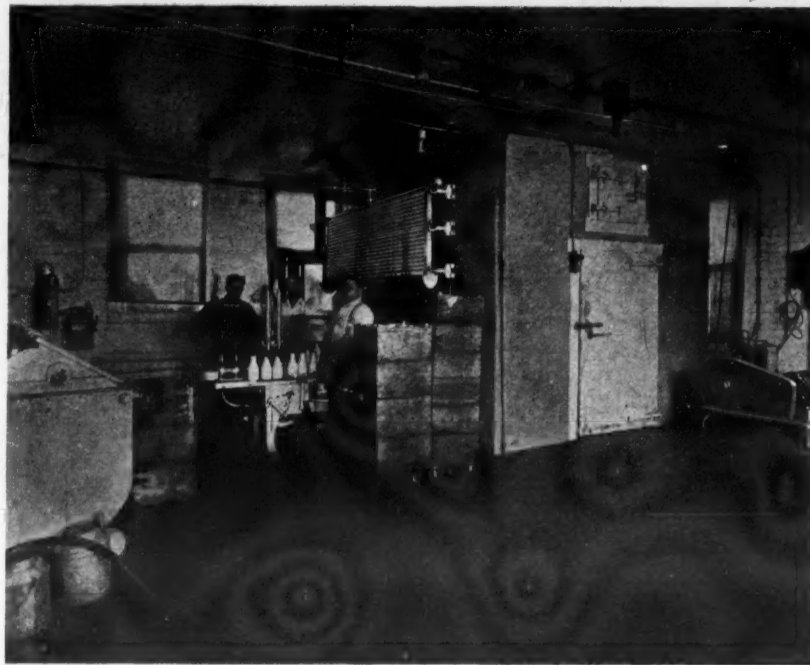
IN AN article prepared for the F. B. Connelly Co., Billings, Mont., distributors of General Electric refrigerators, by Florence R. Clauss, the luxury appeal as a sales argument is condemned as too limited. The opinions of Miss Clauss are based on interviews with experts in home economics, practical housewives, and central station home service directors. She says, "Freedom from the ice man and the deliciousness of frozen desserts have been two of the strongest and most frequently used sales arguments by the manufacturer, dealer and salesman for electrical refrigeration. These are luxury appeals. Before the greatest purchasing power can be tapped it must be made clear to the public that refrigeration affects the family's health or welfare. "In attempting to sell the refrigerator as a household necessity, we are immediately confronted with the question: 'What is a household necessity?' What is a necessity to one home, we are told, may be a luxury to another. True, but there are certain conditions that must be maintained in a home—even in homes of the so-called poorer classes—and the most important of these conditions is sanitation. "Were not running water and sanitary

plumbing once considered luxuries? Yet in towns and cities no houses are being built today without provision for running water and sewer connections. One is not permitted to install plumbing equipment that will be a menace to the health of his family or neighbors. Yet some people who insist upon the most up-to-date household appointments absolutely ignore the matter of proper refrigeration—a matter as seriously affecting the health and well-being of the family as the plumbing installation. No family can long subsist on a daily diet of tainted, stale or dried-out food.

"This indifference toward refrigeration in the home exists because people have not had impressed upon them the importance of good refrigeration methods and equipment, because the electrical industry has not yet worked as persistently or as hard as the plumbing people to get over their ideas of what constitutes necessary household equipment.

"Home economists and housewives with whom we have talked are unanimous in the opinion that more refrigerators would be sold if the use of the refrigerator as a device for turning out frozen concoctions were played down and its service as a health factor more definitely stressed."

Servel Handles Cooling Needs of Rochester, N. Y. Dairy



Union Dairy Products Co., Rochester, N. Y.

A cooling box 10x10x10 feet was constructed of four-inch cork-board insulation, laid in Portland cement, plastered inside and out. For bottling and cooling purposes a six-foot aerator is used, the upper half cooled by city water and the lower half by circulating brine taken from the brine tanks in the cooler. A Servel 100-AW unit is being operated for the cooler and brine tanks, which contain approximately 400 gallons of brine.

The milk is raised to a temperature of 146 degrees F. in the pasteurizer and is pumped directly to the aerator. It comes off the aerator at from 38 to 44

degrees F. and is bottled, put into crates and rolled into the cooling box. This operation takes place at 11 o'clock in the morning and the milk remains in the cooler until 1 o'clock that night when it is loaded into trucks and distributed.

The box itself is carried at a temperature of 38 to 40 degrees F. The operating time of the Servel 100-AW unit is approximately twelve hours per day with the present load. Aeration is carried on at the rate of ten quarts per minute, which is as fast as the filler and capper will handle the milk.

Once-a-Week Shopping Demands Knowledge of Foods' Keeping Qualities and Space Economy

MARKETING for a family of five for the entire week at one time was experimented with by the Delineator Home Institute. During the time notes were made on different foods.

Grapefruit, lemons and oranges were kept on the first shelf at a temperature of 48 degrees. The grapefruit retained a good flavor and only on the seventh day showed slightly shriveled. The oranges became a little soft on the third day and by the seventh day were not presentable to serve although the flavor was still good. The lemons became slightly hard and the flavor only fair by the seventh day. Conclusions drawn were that fruit remained in perfect condition for five days, then peel shrivels slightly and softens but the flavor is mellow and the fruit is juicy.

Salad oil shortening was found to be best on the first shelf for it did not congeal but was easy to handle and measure.

Tomatoes were found to keep in good condition on the second shelf for five days, but after that were only suitable for cooking. Cheese, covered, keeps almost indefinitely.

Eggs kept on the third shelf in a carton were found to be suitable for eating for from ten days to two weeks.

Salad greens, lettuce, celery, parsley, and peppers, were found to be in satisfactory serving condition on the seventh day. Temperature on this fourth shelf was 44 degrees.

A piece of meat, held at 44 degrees in the coldest part of the refrigerator was found to be in perfect condition only through the fifth day.

Preparation of the foods for the refrigerator was given. Lettuce, fresh salad greens, and celery should be washed and trimmed of outer leaves as refrigerator space should not be given to material not used. Celery trimmings and greens to be used for soup should be cut into small pieces and placed in water in a covered glass preserve jar. The materials for salads should be placed in a covered container, an inch of fresh cold water added and covered tightly, the fresh water being substituted every two or three days.

If fresh vegetables are to be kept in the refrigerator they should be prepared for cooking and kept in cold water. If there is a cool bin available vegetables such as peas and beans can be kept outside the refrigerator.

Fruits should be covered in the refrigerator. Bananas should never remain in the refrigerator longer than to become chilled. Oranges and lemons are not so sensitive but placing the breakfast fruit in the refrigerator over night is sufficient.

Meats do not necessarily need to be covered but should be unwrapped and placed on tray or plate. Paper in any form should not be used because it acts as an insulator and spoilage can take place in the package even in the cold food chamber. One piece of wrapped meat was reported molded and holding gathered moisture in what was considered an efficient electrically chilled refrigerator.

Cheese was found especially sensitive to storage conditions. It dries out quickly and is even more sensitive in the refrigerator. It should be bought in small packages and when seal is broken should be wrapped in paraffin or foil. It can then be stored on any available shelf. Other dairy supplies should be in the coldest compartment. Clean, raw milk stored at 40 to 45 degrees furnished a practically perfect supply, it is stated. Milk should not be sealed tightly but protected from dust.

FINDS SOME APPLES REQUIRE STORAGE TEMPERATURE OF 36°

A temperature of 36 degrees F. is quoted as the best temperature for storage of several varieties of apples in a bulletin issued by the agricultural experiment station of Iowa State College.

In investigation of the development of "soggy breakdown" it was found that 32 degrees F., which is usually considered a good temperature for storage of apples, was causing one form of decay. The bulletin describes the breakdown as "a non-parasitic disease which develops at low temperatures, is distinguished from internal breakdown, and from physiological decay on the breakdown which accompanies senescence."

It was found that differences of 2 or 4 degrees F. in temperature affected development of the disease. No serious amount of soggy breakdown was found to occur at 36 degrees, while the increased loss due to apple rot fungi was very small.

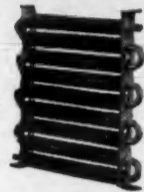
McCollister Bros. Move To New Quarters in Alexandria, La.

On March 16, McCollister Bros., Inc., agents for Frigidaire in Alexandria, La., officially opened its new quarters in the Masonic Bldg., at Fourth and Johnston Sts. Ernest A. Allen, manager of the New Orleans Frigidaire branch and C. G. Ross, factory representative, attended the formal opening.

Refrigeration Service Co. Inc.

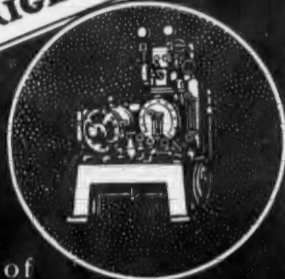
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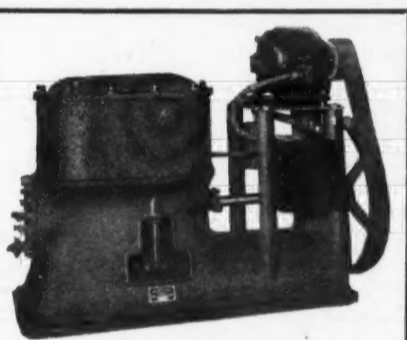
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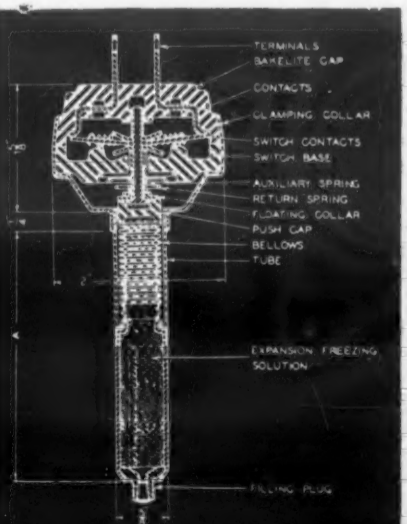


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APRIL 24, 1929

Central Station Merchandising Methods

IS IT true that the practices of central stations in merchandising electrical appliances, particularly electric refrigerators, are unfair to the industry and inimical to the public interest? Is it true that the monopolistic franchises which give the public utilities exclusive right to sell electric current in prescribed territories, the control of their policies through octopus-like holding companies, their tremendous financial resources built up by continuously profitable operation, their mutual understandings and agreements developed through the efficient and far-flung National Electric Light Association, their long established relations with well known manufacturing concerns—that all these influences tend to make the central station merchandising department a prejudiced buyer and a ruthless competitor, a monster which is crushing the manufacturer and dealer in their efforts to sell honest goods at honest prices?

Such, in substance, is the indictment drawn by Powell Evans and Thomas Evans, president and vice-president respectively, of the Merchant & Evans Co., Philadelphia, Pa., in a ninety-six page pamphlet entitled "A Protest Against Public Utility Monopoly Competition in Electric and Gas Appliances and Merchandise Based on Complaint Before Federal Trade Commission, Addressed Especially to All Non-Public Utility Manufacturers, Distributors and Dealers."

If these charges represent a correct summary of the conditions, then a lot of manufacturing executives with years of experience in the electrical industry have been sadly wrong in their estimate of the public utilities. Knowing something of the efforts which have been made to sell public utility executives on their opportunity and their responsibility for developing the market for electrical appliances; knowing something of the extreme conservatism and positive lethargy on the part of executives of said public utilities to adopt reasonably modern merchandising methods; knowing something of the rather poor opinion of central station selling ability held by some ambitious sales managers; we have always been inclined to believe that central stations as a whole needed stimulation rather than repression. Frankly, Electric Refrigeration News has endeavored to promote central station merchandising activity and has viewed the central station "support" of educational campaigns as being inadequate rather than oppressive.

As has been repeatedly pointed out in the columns of this paper, it is practically impossible to discuss the central stations of the country as a whole and apply any one set of premises or conclusions. It is necessary to consider each major city by itself because of the wide variation in merchandising methods. Furthermore, while no one who is familiar with the situation will dispute that there are many things wrong with the merchandising policies of particular utilities, it is not so easy to agree as to just what should be done about it. Admitting that there are "rats in the barn," it does not necessarily follow that the proper remedy is to burn the barn.

Turning for a moment to one of the specific charges—that of price-cutting—the central stations certainly have no monopoly on this evil. The practice, on the part of any concern, is an evidence of weakness rather than strength. Similarly other concessions which the central stations are charged with making reveal mainly a lack of selling ability, however they may be justified in terms of service to the public.

Unquestionably central station merchandising departments, along with electric refrigerator manufacturers, distributors and dealers, have, in all too many cases, lost their perspective on the market for electric refrigeration. But even this condition may be readily understood. Only a brief two or three years ago there was no public acceptance of this new service. Sales were made against the most stubborn resistance. Enormous pressure and fabulous expenditure of money were deemed necessary to break down this barrier to quantity sales. Almost overnight, it seems, that resistance has crumbled. The public has started to buy electric refrigeration—and likes it. From all parts of the country come reports that business is amazingly good.

In our own opinion many of the charges made by Messrs. Evans are well founded, but our sober thought is that the electric refrigeration industry is much to blame for teaching the central stations their bad tricks. The real need is for a bigger and better selling job. The central station facilities can be applied constructively to the tremendous advantage of electric refrigeration and with immeasurable benefit to the public.

If there is a better way for the central stations to use their energies and their money they should be told how to do it. Their big interest is admittedly in the sale of current and they will be reasonably susceptible to any sound plan. Fortunately they may be reached for educational purposes through the National Electric Light Association and through publications which they read as sources of new ideas. A big, broad plan has already been formulated and very recently indorsed by the electric refrigeration manufacturers—a plan which will permit the central stations to use all of their power and influence constructively. Electric Refrigeration News believes that the "National Food Preservation Activity" represents the kind of a tool which should be used to accomplish the desired purpose. No doubt the Merchant & Evans complaint will be helpful in focusing attention upon the evils which exist. On this point we agree fully. As to the remedy, we have great faith in organized educational effort and feel confident that better merchandising methods will come with a clearer understanding of the job and a vision of the unlimited future for refrigeration.

500 Electrolux Dealers and Salesmen Attend One-Day Business Session at Hartford



Approximately 500 dealers and salesmen of Electrolux gas refrigerators attended a one-day business session at the Atlantic Utilities Co., Hartford, Conn. The session was attended by representatives from Connecticut, Rhode Island, and western Massachusetts. Speakers at the meeting were Philip E. Allen, president of the host company; H. W. Foulds, vice-president of Servel Sales, Inc.; J. W. Bremier, merchandising counsel for the Curtis Publishing Co.; Willard Bennett, Servel Sales, Inc.; and Willard Taylor, district sales manager, Servel Sales, Inc.

Merchant & Evans Co. Attacks Merchandising Methods of The Central Stations

Suit Against Philadelphia Electric Company Awaiting Decision—Complaint Filed With Federal Trade Commission

AN EXTENSIVE collection of letters and reports bearing on the merchandising methods of central stations which collectively represents the complaint of the Merchant & Evans Company, Philadelphia, Pa., filed with the Federal Trade Commission have been published in the form of a pamphlet being distributed by Powell Evans, president of the Merchant & Evans Company. In addition to the action through the Federal Trade Commission, suit has been brought against the Philadelphia Electric Company and this case is now awaiting a decision of the court. The proceedings in the case have not yet been made public.

The following editorial from the April 20 issue of *Electrical World*, summarizes the situation as it affects the public utility companies.

ANOTHER ATTACK ON POWER COMPANY MERCHANDISING

A MANUFACTURER of electric refrigerators has just stepped into the spotlight by bringing suit in the federal courts of an Eastern city to enjoin the local power company from selling domestic appliances at retail. At the same time he has filed a complaint with the Federal Trade Commission denying the right of public utilities companies to compete with independent merchants. He has broadcast over the country a printed pamphlet denouncing the merchandising policies and practices of the power companies and setting forth a long correspondence with the commission and with various retail trade associations. As the complaint of one individual against an industry, this pamphlet is probably not important. But coming as it does as the latest expression of an indignant criticism that for several years has been more or less continuously voiced by the retail merchants of many trades that sell electrical appliances in many states, it becomes undeniably serious.

Seven specific charges are made to show that power-company merchandising is unfair competition:

1. That the utilities, having been given a monopoly in their service, are in a favored position with respect to their customers.
2. That merchandising is not a necessary incidental to the conduct of their principal business.
3. That utility capital should be used for rate-base purposes only and that to apply it to merchandising is taking an unfair advantage.
4. That utilities by selling only a few makes of any appliance discriminate against other manufacturers.
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Obviously, the public is only concerned that there be a dependable electric service available at a reasonable cost and that desired appliances be purchasable at convenient points and on good terms. By and large, the average woman does not care from whom she buys them so long as they prove satisfactory. It is in the public interest also that the uses of electricity be broadened and extended because this will bring a greater enjoyment of this public service and in turn, by improvement of load factor and increased income per customer, will make lower rates possible.

The power company's chief interest lies in the building of load. If there were any one else to shoulder the burden of developing the public demand for electrical appliances, it is probable that few utilities would merchandise. They have been obliged to go into appliance

retailing because some one must put an impelling pressure behind this idea of using electricity for more comfort and labor saving in the home. It requires the free investment of money for the upbuilding of a popular demand. The independent dealer cannot afford to invest his money in this way. Moreover, it is the very nature of retail trade that the dealer's store must sell what people want and come to buy. He is not organized for pioneering new ideas. The power company can do this, however, because, once sold, an appliance continues to consume energy from which a further profit is realized. And so the power companies have gone into the appliance business.

Provided that the power companies' policies are right, it is very much to the advantage of the independent dealer to have them actively selling appliances. It hastens the development of an active popular market. It makes more business for everybody by influencing more people in that community to use electricity in more ways. But in too many cities power-company merchandising policies are not right because the utility men in their zeal to sell more appliances have ruined the market for everybody else selling on unmeetable terms. They have done this, not to hurt the dealers, but because they are comparatively inexperienced in trade. They have come in conflict with both the economics and the ethics of modern merchandising by failing to recognize their responsibility to the local trade of which they have become a part. They have overlooked the fact that if complete electrical equipment is some day to be the standard of the American home, there must be good and prosperous stores selling appliances in every neighborhood. And obviously the power company does not want to be compelled to maintain all the stores. It will be better if ultimately it can be relieved of merchandising altogether.

The present outburst of this particular refrigerator manufacturer may be helpful. It presents another proof of the danger of careless merchandising policies that make enemies of all the dealers who rather should be encouraged to enthusiastically sell load-building appliances to every home. Of course, the court action is local. Moreover, it is hard to see how the Federal Trade Commission has any jurisdiction unless all business that crosses state lines is to be put into the commission's control. The contention that a utility must sell every make of range or flatiron or be guilty of discrimination appears absurd, because no store could attempt to sell everything without becoming a museum.

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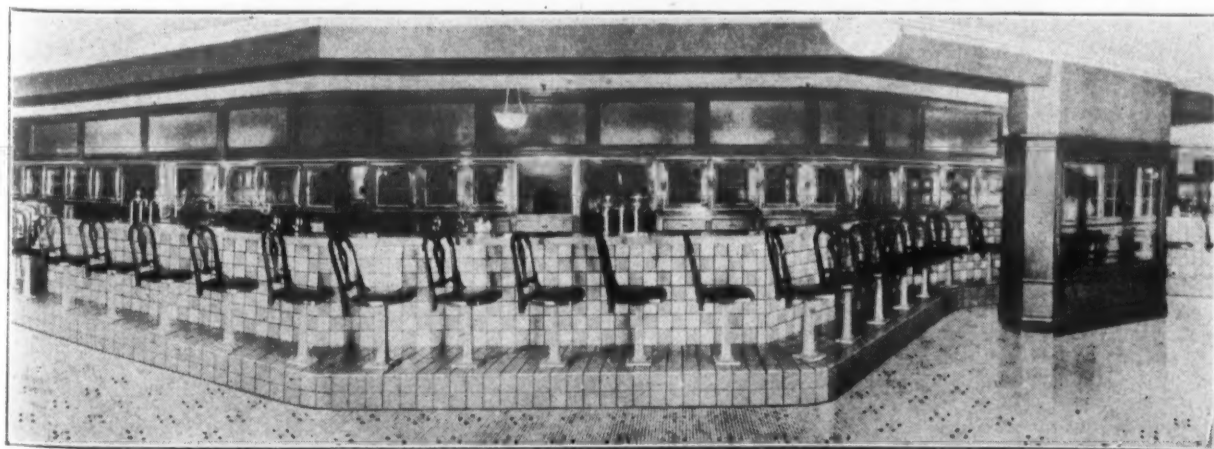
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**By E. R. Kelley, sales manager, Ice Cream Cabinet Division
Kelvinator Sales Corporation**

Has Revolutionized Distribution of Ice Cream

Eleven Frigidaire Compressors in Unusual Hook-up in San Francisco Department Store

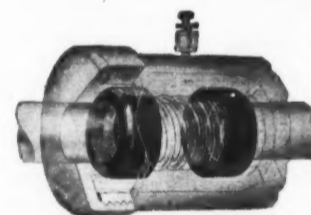


Glass Enclosed Refrigerated Compartments in Emporium Department Store, San Francisco.

A black and white photograph of a man in a white uniform standing behind a long counter in a kitchen or service area. The counter is cluttered with various items, and there are shelves and cabinets in the background.

Electrically Cooled Soda Fountain Does Not Replace Ice Cream Cabinet

Style No. 2 Cooke Seal Ring



Style No. 2 Cooke Seal Ring

Reduces Shaft Friction 90%

Not only does the Cooke Seal Ring create a leak proof seal around any revolving shaft, but it practically does away with shaft friction in the stuffing box. There is no packing to bind the shaft, score it, overload the motor, waste power. Instead, the ground surface of the Cooke Seal Ring, frictionally tight on the shaft—and running in a bath of oil or water, revolves smoothly against the gland with an absolute minimum of friction. One of a dozen reasons why Cooke Seal Rings are being installed on the compressors of many leading electric refrigeration manufacturers. Write us for details.

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20 N. Green Street, Chicago, Illinois, Dept. M.

COOKE SEAL RING
20 N. Green St., Chic

Please send me your free booklet without obligation.

Name
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ELECTRIC REFRIGERATION NEWS

The Business Newspaper of the Refrigeration Industry

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APRIL 24, 1929

Central Station Merchandising Methods

IS IT true that the practices of central stations in merchandising electrical appliances, particularly electric refrigerators, are unfair to the industry and inimical to the public interest? Is it true that the monopolistic franchises which give the public utilities exclusive right to sell electric current in prescribed territories, the control of their policies through octopus-like holding companies, their tremendous financial resources built up by continuously profitable operation, their mutual understandings and agreements developed through the efficient and far-flung National Electric Light Association, their long established relations with well known manufacturing concerns—that all these influences tend to make the central station merchandising department a prejudiced buyer and a ruthless competitor, a monster which is crushing the manufacturer and dealer in their efforts to sell honest goods at honest prices?

Such, in substance, is the indictment drawn by Powell Evans and Thomas Evans, president and vice-president respectively, of the Merchant & Evans Co., Philadelphia, Pa., in a ninety-six page pamphlet entitled "A Protest Against Public Utility Monopoly Competition in Electric and Gas Appliances and Merchandise Based on Complaint Before Federal Trade Commission, Addressed Especially to All Non-Public Utility Manufacturers, Distributors and Dealers."

If these charges represent a correct summary of the conditions, then a lot of manufacturing executives with years of experience in the electrical industry have been sadly wrong in their estimate of the public utilities. Knowing something of the efforts which have been made to sell public utility executives on their opportunity and their responsibility for developing the market for electrical appliances; knowing something of the extreme conservatism and positive lethargy on the part of executives of said public utilities to adopt reasonably modern merchandising methods; knowing something of the rather poor opinion of central station selling ability held by some ambitious sales managers; we have always been inclined to believe that central stations as a whole needed stimulation rather than repression. Frankly, Electric Refrigeration News has endeavored to promote central station merchandising activity and has viewed the central station "support" of educational campaigns as being inadequate rather than oppressive.

As has been repeatedly pointed out in the columns of this paper, it is practically impossible to discuss the central stations of the country as a whole and apply any one set of premises or conclusions. It is necessary to consider each major city by itself because of the wide variation in merchandising methods. Furthermore, while no one who is familiar with the situation will dispute that there are many things wrong with the merchandising policies of particular utilities, it is not so easy to agree as to just what should be done about it. Admitting that there are "rats in the barn," it does not necessarily follow that the proper remedy is to burn the barn.

Turning for a moment to one of the specific charges—that of price-cutting—the central stations certainly have no monopoly on this evil. The practice, on the part of any concern, is an evidence of weakness rather than strength. Similarly other concessions which the central stations are charged with making reveal mainly a lack of selling ability, however they may be justified in terms of service to the public.

Unquestionably central station merchandising departments, along with electric refrigerator manufacturers, distributors and dealers, have, in all too many cases, lost their perspective on the market for electric refrigeration. But even this condition may be readily understood. Only a brief two or three years ago there was no public acceptance of this new service. Sales were made against the most stubborn resistance. Enormous pressure and fabulous expenditure of money were deemed necessary to break down this barrier to quantity sales. Almost overnight, it seems, that resistance has crumbled. The public has started to buy electric refrigeration—and likes it. From all parts of the country come reports that business is amazingly good.

In our own opinion many of the charges made by Messrs. Evans are well founded, but our sober thought is that the electric refrigeration industry is much to blame for teaching the central stations their bad tricks. The real need is for a bigger and better selling job. The central station facilities can be applied constructively to the tremendous advantage of electric refrigeration and with immeasurable benefit to the public.

If there is a better way for the central stations to use their energies and their money they should be told how to do it. Their big interest is admittedly in the sale of current and they will be reasonably susceptible to any sound plan. Fortunately they may be reached for educational purposes through the National Electric Light Association and through publications which they read as sources of new ideas. A big, broad plan has already been formulated and very recently indorsed by the electric refrigeration manufacturers—a plan which will permit the central stations to use all of their power and influence constructively. Electric Refrigeration News believes that the "National Food Preservation Activity" represents the kind of a tool which should be used to accomplish the desired purpose. No doubt the Merchant & Evans complaint will be helpful in focusing attention upon the evils which exist. On this point we agree fully. As to the remedy, we have great faith in organized educational effort and feel confident that better merchandising methods will come with a clearer understanding of the job and a vision of the unlimited future for refrigeration.

500 Electrolux Dealers and Salesmen Attend One-Day Business Session at Hartford



Approximately 500 dealers and salesmen of Electrolux gas refrigerators attended a one-day business session at the Atlantic Utilities Co., Hartford, Conn. The session was attended by representatives from Connecticut, Rhode Island, and western Massachusetts. Speakers at the meeting were Philip E. Allen, president of the host company; H. W. Foulds, vice-president of Servel Sales, Inc.; J. W. Bremier, merchandising counsel for the Curtis Publishing Co.; Willard Bennett, Servel Sales, Inc.; and Willard Taylor, district sales manager, Servel Sales, Inc.

Merchant & Evans Co. Attacks Merchandising Methods of The Central Stations

Suit Against Philadelphia Electric Company Awaiting Decision—Complaint Filed With Federal Trade Commission

AN EXTENSIVE collection of letters and reports bearing on the merchandising methods of central stations which collectively represents the complaint of the Merchant & Evans Company, Philadelphia, Pa., filed with the Federal Trade Commission have been published in the form of a pamphlet being distributed by Powell Evans, president of the Merchant & Evans Company. In addition to the action through the Federal Trade Commission, suit has been brought against the Philadelphia Electric Company and this case is now awaiting a decision of the court. The proceedings in the case have not yet been made public.

The following editorial from the April 20 issue of *Electrical World*, summarizes the situation as it affects the public utility companies.

ANOTHER ATTACK ON POWER COMPANY MERCHANDISING

A MANUFACTURER of electric refrigerators has just stepped into the spotlight by bringing suit in the federal courts of an Eastern city to enjoin the local power company from selling domestic appliances at retail. At the same time he has filed a complaint with the Federal Trade Commission denying the right of public utilities companies to compete with independent merchants. He has broadcast over the country a printed pamphlet denouncing the merchandising policies and practices of the power companies and setting forth a long correspondence with the commission and with various retail trade associations. As the complaint of one individual against an industry, this pamphlet is probably not important. But coming as it does as the latest expression of an indignant criticism that for several years has been more or less continuously voiced by the retail merchants of many trades that sell electrical appliances in many states, it becomes undeniably serious.

Seven specific charges are made to show that power-company merchandising is unfair competition:

1. That the utilities, having been given a monopoly in their service, are in a favored position with respect to their customers.
2. That merchandising is not a necessary incidental to the conduct of their principal business.
3. That utility capital should be used for rate-base purposes only and that to apply it to merchandising is taking an unfair advantage.
4. That utilities by selling only a few makes of any appliance discriminate against other manufacturers.
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National Electrical Wholesalers Association, convention, Hot Springs, Va., May 27-31, E. Donald Tolles, managing director, 165 Broadway, New York, N. Y.
Refrigeration Machinery Association, spring meeting, Hot Springs, Va., May 16-18, Fred Nolde, secy., 705 Park Bldg., 23 S. 52nd St., Philadelphia, Pa.

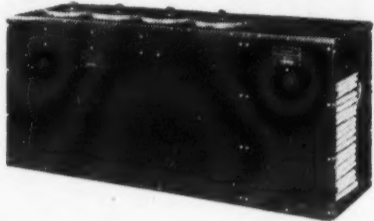
City ..

Electrically Refrigerated Ice Cream Cabinets

MERCURY UNIT WITH FRICTION DRIVE IS OFFERED BY SAVAGE

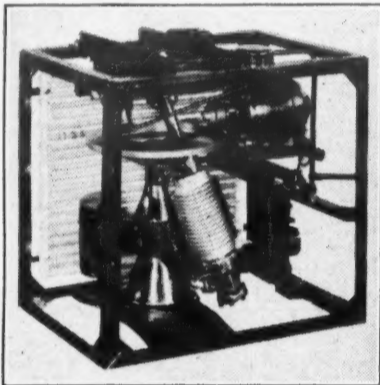
SAVAGE mercury ice cream cabinets are manufactured by the Savage Arms Corporation, Utica, New York, in two, three, four and six-hole single row styles and in four, six, eight and ten-hole double row styles. The width of all the single row models is 20 1/2 inches, while the same dimension for the double row models is 29 1/2 inches. The height of all models is 30 inches and the length depends on the number of holes.

Features of the cabinet include 3 1/2 to



Savage 4-Hole, Self Contained Model

4-inch corkboard insulation sealed against moisture; mercoide temperature control; Savage flat-plate evaporators and Savage patented jelly freezing mixture, making it unnecessary to put in brine at the time of installation. This construction permits rectangular compartment, which, it is claimed, store 40 per cent more package goods than cylindrical sleeve-type container. The top of the cabinet is of Monel Metal and metal parts are cadmium plated. The top is so constructed that it will not sweat in humid weather.



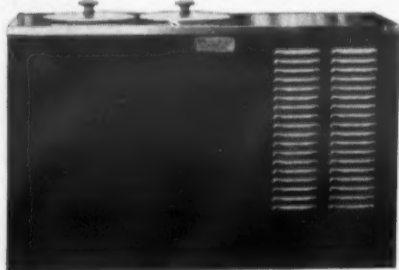
Savage Mercury Compressor

The Savage mercury condensing unit which is shown here uses methyl chloride as a refrigerant. The compressor is hermetically sealed. All moving parts are external and easily accessible. There are no internal moving parts and no lubricant in contact with the refrigerant. The compressor operates at a slow speed and with a rotary motion and is run by a friction drive. As can be seen in the illustration a fin tube condenser is used. The dimensions of the Savage condensing unit are height 30 in., width 23 in., and length 31 in.

"ALL AROUND" COIL USED ON UNIVERSAL STANDARD CABINETS

THE Universal Cooler Corp., 18th and Howard Streets, Detroit, Mich., are manufacturers of a line of ice cream cabinets in both the self-contained and remote types.

The cut here shows their two-hole



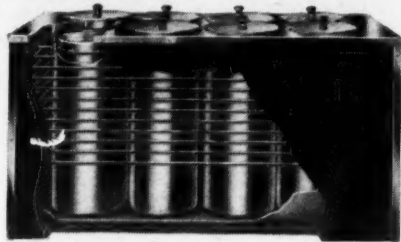
Universal 2-Hole, Self Contained Model

portable cabinet which is used by ice cream manufacturers in servicing their "small stops." It is 46 1/2 inches long, 18 1/2 inches wide, 29 1/2 inches high and has a brine capacity of 11 1/2 gallons. It is the smallest of their line of twenty-one ice cream cabinets, which range in size from the two, three and four-hole portable cabinets to a twelve-hole cabinet and which contains both one and two temperature cabinets.

The accompanying cutaway view of the Universal eight-hole standard cabinet shows the accessible control panel and the "all-around" coil construction used on all Universal cabinets. All

standard cabinets have a high gloss, baked, black enamel finish and a Monel Metal top and trim.

The Universal line of refrigerating units includes a 1/6 H.P. portable air-

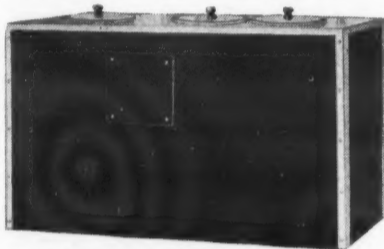


Cutaway View Showing Universal "All Around" Coil

cooled unit, a 1/6 and a 1/4 H.P. air-cooled single cylinder unit, a 1/3 H.P. air-cooled twin cylinder unit, a 1/2 H.P. air-cooled twin cylinder unit and a 1/2 H.P. water-cooled twin cylinder unit. All air-cooled units have a radiator type condenser and all are equipped with a thermostat control and use methyl chloride.

SERVEL INCLUDES 11 SELF CONTAINED CABINETS IN LINE

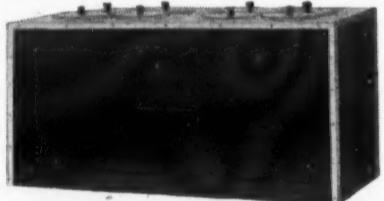
SERVEL Sales, Inc., Evansville, Ind., offers a series of eleven ice cream cabinets all fully equipped with chilling units installed. The new Servel line is designed to fill every need, including the handling of special ice creams, such as bricks, mousses, moulds and favors, as well as the standard bulk cans.



Servel 3-Hole, Single Row Cabinet

The sizes range from a small two-hole, single-row cabinet to the large twelve-hole, double-row container. The square sleeves on the single-row cabinets will accommodate bulk cans or bricks with equal chilling effect. Rectangular sleeves in the double-row size serve the same purpose.

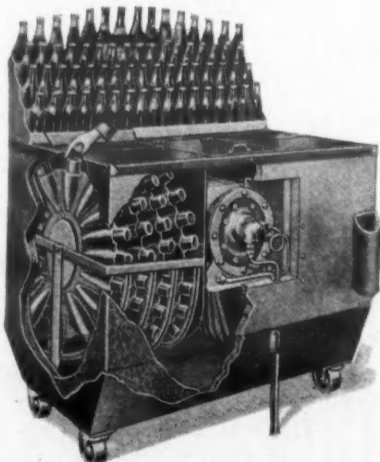
All Servel ice cream cabinets are of angle iron construction. Corkboard insulation is used throughout—6 inches on bottom, 3 1/2 inches on all four sides, and 2 inches on top, re-enforced with 3/4 inches of three-ply wood. Waterproof paper is used between each layer of cork.



Servel 8-Hole, Double Row

The tops and covers of the cabinets are Monel metal. Panels are finished in duco and are rust resisting.

A three way channel is provided in the cork for running tubing. The float valve is supplied with a removable panel for connecting and is furnished with a Dry Zero pad to fit over the float valve. The brine tank is fully enclosed but built with removable plate over float valve assembly to provide easy access to coils without removal of entire tank.



Servel Bottle Cooler

In addition to the ice cream cabinet line Servel offers an "All-Syze" bottle or beverage cooler. The cabinet of this model contains eight wheels, each having a sleeve for sixteen pint bottles. Each wheel revolves on its own axle independent of the next wheel, permitting eight selections of bottled beverages,

submerged in a sweet water bath.

The temperature in this cooler is maintained at about 38 to 40 degrees by an L-12 coil submerged in the middle section. On each side of the coil are four wheels and on the top is a rack having a capacity of five cases of bottled goods. A 30-A condensing unit is used with this cooler. The serving top is constructed of blue porcelain and the exterior is finished in gray duco.

ICELECT OFFERS NEW EVAPORATOR FOR ICE CREAM REQUIREMENT

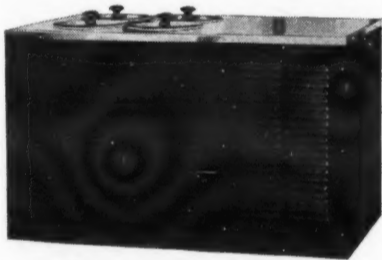
THE ICELECT Corp., Omaha, Nebr., manufacturers of the Icelect compressor, announces their new equipment for ice cream cabinets. Recently, the company put a new type of evaporator on the market for commercial installations. This evaporator is made of two corrugated cylinders, one inside the other. In ice cream cabinets this evaporator is arranged so that the ice cream containers set inside the coil, which is ten inches in diameter and twenty-two inches in depth.

This system can be used on cabinets ranging in capacity from one five gallon can up to any number desired. No brine is used and the evaporator contains slightly over a pint of refrigerant.

NELSON CABINETS MADE SPECIAL FOR ELECTRIC COOLING

The four hole portable ice cream cabinet shown here is manufactured by the C. Nelson Manufacturing Co., St. Louis, Mo. This model is 48 1/2 in. long, 30 in. wide, and 29 1/2 in. high. It is designed for self-contained installation and has a brine capacity of 20 gallons. This model is finished in baked black enamel.

Many other models are included in the Nelson line. Models C.C.-2 and C.C.-4 are combination two-temperature cabinets for ice cream and bottle storage. The temperature in the bottle storage compartment is controlled independently of the ice cream containers. Model



Nelson 4-Hole, Double Row, Self Contained Cabinet

C.C.-2 has two square ice cream compartments to accommodate tall or squat-type ice cream can goods or package goods. Model C.C.-4 has one square and three round ice cream compartments.

Seattle Frigidaire Dealer Opens Fourth Retail Store

C. J. Dunlop, Frigidaire dealer in west Seattle, Wash., opened his fourth retail sales room at 9422 McKinnon Rd. recently. Radios and refrigerators are handled. Door prizes amounting to approximately \$400 in down payments were given at the opening of the new store.

TRADE
EXTRA DRY ESOTOO
MARK

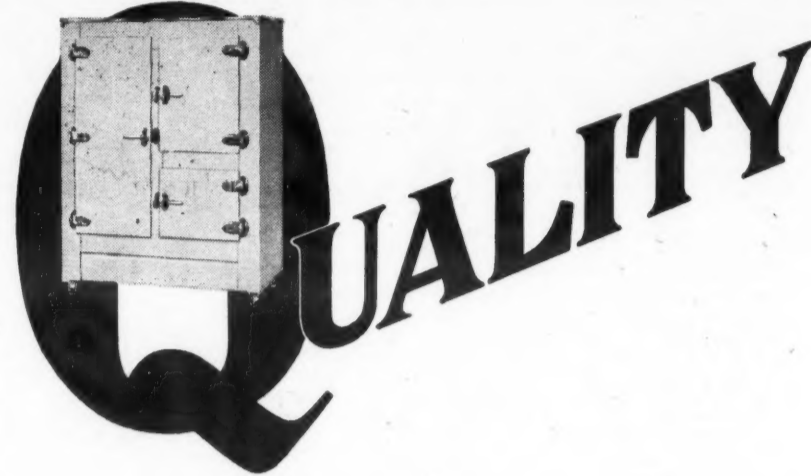
THE PUREST

SULPHUR DIOXIDE

Analysis Guaranteed

We have an agent, with our product in stock, near you
Wire us where we can serve you

VIRGINIA SMELTING CO., WEST NORFOLK, VA.
F. A. Eustis, Secretary 131 State St., BOSTON 2 Rector St., NEW YORK



Long familiarity with problems of refrigeration coupled with the Challenge policy of highest quality assures everything to be desired in a refrigerator no matter what cooling method is used.

Public preference, too, is today centered on those products that excel and show their excellence both under observation and practical demonstration.

Personal preference need not be confined to any one type for the famous Challenge line is complete. Sales are always stimulated by the great name "Challenge."

CHALLENGE REFRIGERATOR CO.
Grand Haven, Michigan

CHALLENGE REFRIGERATORS

3 Way Valves—No Soldered Joints!

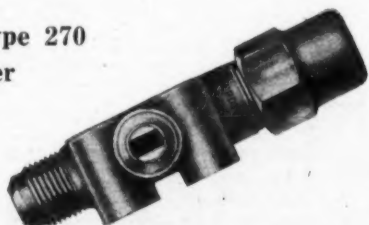


Designed to extend out from wall, 4 bolt holes, large stem with 1/4" square—3 different styles of seal caps, all flare spuds forged solid on body, truly a boon to service men.



Specify KEROTEST Type 270
on your next order

Type 270 up to 1/2" S. A. E.
Type 265 for 3/8" S. A. E.



Kerotest Mfg. Co., Pittsburgh, Pa.

—and Soda Fountains

STANLEY KNIGHT AND COPELAND ARRANGE A WORKING AGREEMENT

ARRANGEMENTS by the Copeland Products, Inc., Detroit, manufacturers of electric refrigeration, for installation of Copeland units in soda fountains made by Stanley H. Knight Co. of Chicago, have just been announced by W. D. McElhinny, vice-president in charge of sales of the Copeland Company.

Under this plan, Copeland's more than 2,000 dealers and distributors throughout the United States and abroad will work in conjunction with the sales outlets of the Stanley H. Knight Company.

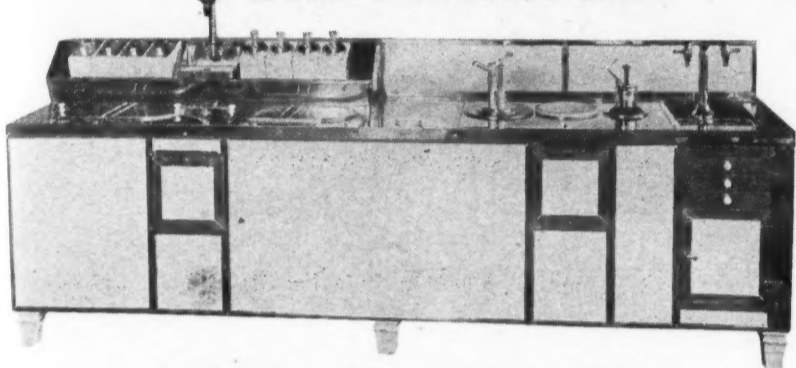
Under this plan, where Stanley Knight

distributors and dealers make installations of soda fountains or equipment which call for electric refrigeration the Copeland distributor or dealers in that section is called in and together they work out the problem involved, presenting plans for an installation. The Copeland condensing units found best adapted for this work are the Q-252, the R-516 air cooled and RW-516 water cooled.

Arrangements between the two companies were worked out at the recent sales convention of the Copeland company in Detroit, which was attended by some 400 dealers and distributors from all over the entire United States.

"This arrangement," said Mr. McElhinny in discussing the prospects for electric refrigeration in the soda fountain field, "is working out most satisfactorily. We are getting orders for this type of installation from all over the country and the field is constantly growing."

Acorn Opalite Adds New Models to Soda Fountain Line



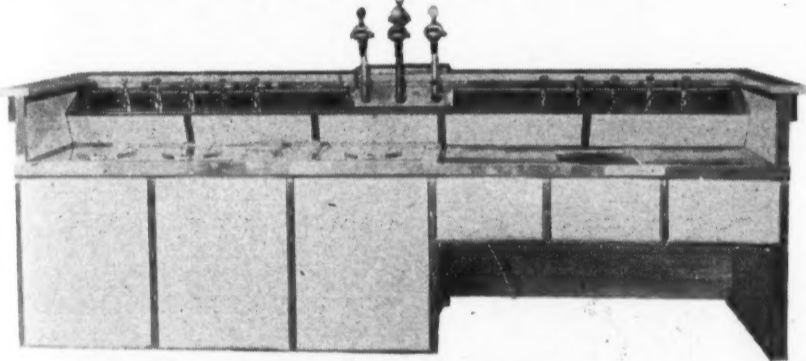
Combination Fountain and Restaurant Cooler

Several new soda fountains and combination restaurant fountains and coolers have been added to the line of equipment offered by the Acorn Opalite Metal Specialties Co., Chicago, Ill. The new fountain shown here is a twelve foot model and is one of a number of models contained in the Acorn line. These include models in six, eight, ten and twelve foot lengths insulated with sheet cork.

Some of the fountains maintain five temperatures automatically. Specifications include bulk and cream compartments, dry refrigerator compartments, water and soda cooling equipment,

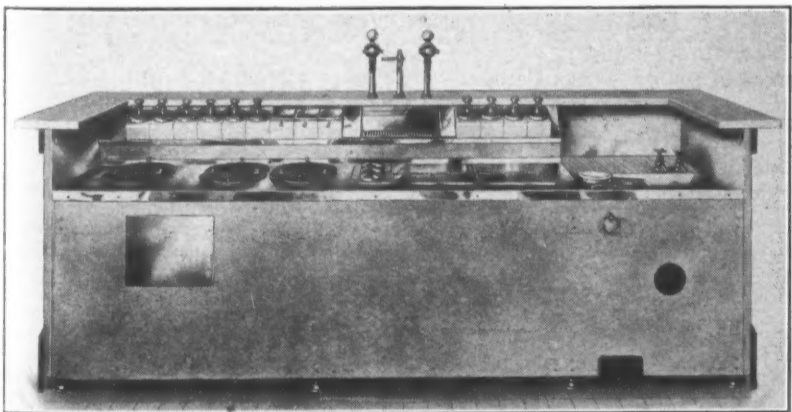
double support syrup pumps, porcelain syrup jars and other accessories.

The combination restaurant fountain and cooler illustrated here is a ten foot model and has two twin ice cream containers which hold four 5 gallon cans. In back of the ice cream compartment is a soda draught arm with four crushed fruit jars and lids to the left and four syrup jars and pumps to the right. This model also contains a bottle milk and soft drink compartment, a milk pump and container, cream pump and container, ice water and three butter chip drawers and a storage compartment underneath.



12-Foot Acorn Opalite Fountain

American Soda Fountain Offers Small Refrigerated Simplex Model



8-Foot Model Simplex A Fountain

The eight-foot electrically refrigerated soda fountain illustrated above is manufactured by the American Soda Fountain Co., Watertown, Boston, Mass. This model Simplex A has a refrigerated ice cream cabinet section for four 5 gallon cans. The counter is built integral with the unit. The refrigerated section of this counter is insulated with 3 in. corkboard. Linings of the counter are made of heavily tinned copper, with the joints interlocked and soldered. The soda water cooler consists of a battery of cylinders made of block tin and encased in heavy, seamless, fire-tinned, drawn, copper cylinders.

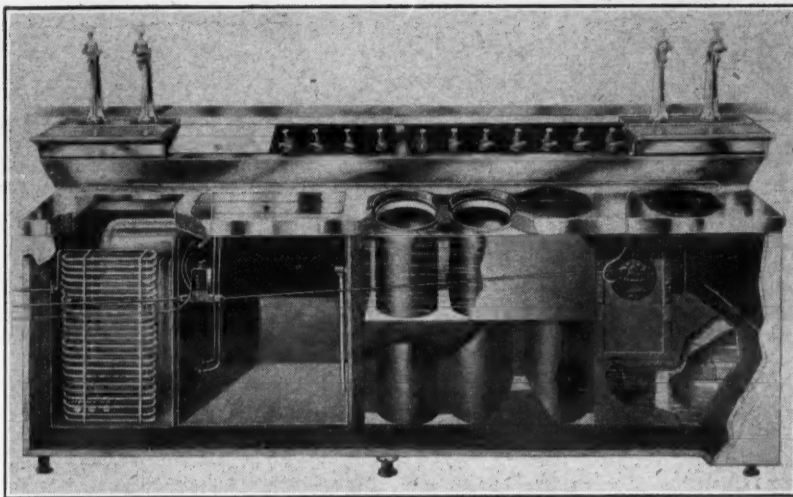
This unit has a No. 12 soda tube and a No. 12 rapid water tube, seven syrup jars and pumps, ice cream cabinet section, refrigerator for bottled beverages, chipped-ice box, coolers, tumbler washer

and other standard equipment. Sulphur dioxide and ammonia refrigerating systems are used with fountains offered by this company. Two other styles are included in its line, the Tandem Innovation and Innovation soda fountain models. The Tandem model is designed for stores doing a large business in ice cream.

OKLAHOMA DEALERS MEET TO HONOR FRIGIDAIRE QUOTA MEN

Frigidaire dealers and salesmen from the Oklahoma district met April 6 in Tulsa in recognition of salesmen who had attained their quota of sales for the last quarter. Plans for the next quarter were discussed.

Liquid Carbonic Soda Fountains Include Interesting Features

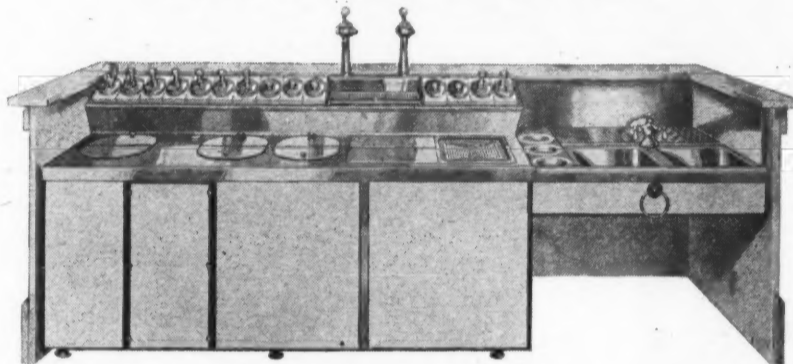


Cutaway View of "Universal Mechanicold" Fountain

THE illustration above shows a cutaway view of the 8 ft. 6 in. "Universal Mechanicold" soda fountain offered by the Liquid Carbonic Corp., 3100 South Kedzie Ave., Chicago, Illinois. This particular model is only one of a wide variety manufactured by the company. Among the features incorporated in these soda fountains is the insulated draft arms which prevent room temperature from warming the water as it passes

through the arm; a refrigerated syrup enclosure which maintains an ice formation and insures cool, fresh syrups; a special pump for chocolate and other heavy syrups; ice cream covers of heavy insulated bakelite; a patented brine tank insuring the uniform temperature of ice cream from the top to the bottom of each can and a special zero compartment for package ice cream which can not be properly kept at ordinary bulk ice cream temperature.

Russ Manufacturing Co. Offers Three Lines of Soda Fountains



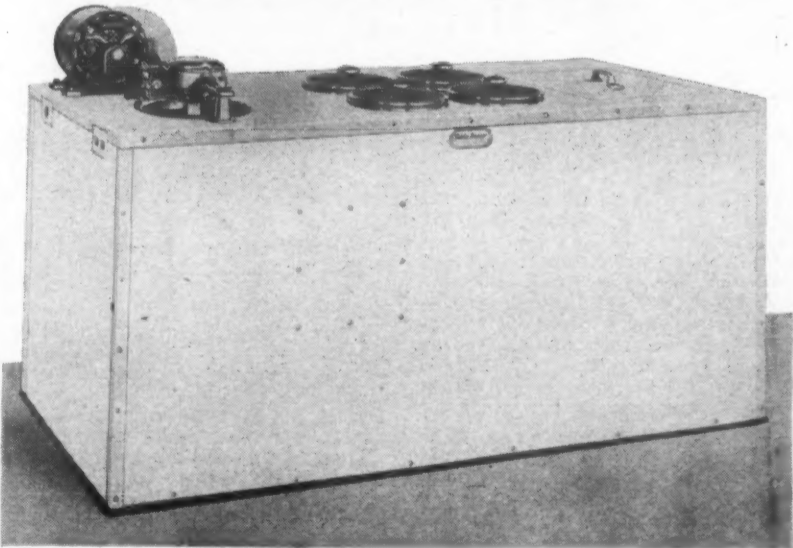
Russ Reliance Fountain No. 106

The 10 foot soda fountain illustrated above represents one of three lines offered by the Russ Manufacturing Co., Cleveland, Ohio. This Reliance fountain outfit No. 106 has two 10 gallon bulk ice cream containers and one 10 gallon brick ice cream container. It also contains a refrigerator compartment 16 in. wide, 24 1/2 in. deep and 24 in. high. Cooling coils in this model are arranged in the rear of the refrigerator compartment. The soda cooling coil is constructed of block tin and the water cooling coil is

made of tinned copper. Double soda and water cooling coils are also included. The Reliance models are of all-metal frame construction with Monel Metal tops and lids. Standard equipment in this model includes one chocolate and eight syrup pumps and five crushed fruit jars.

Other models manufactured by the Russ company are in the Defiance and Peerless lines. The fountains in the Defiance line have the top, workboard and counter frame of integral construction. Art tile counters are also included in the line offered by this company.

Dealer Makes Own Ice Cream in Raiche Electric Freezer



Raiche Model 5-20 Ice Cream Freezer

THE freezer shown in the accompanying illustration is the model 5-20, manufactured by the Raiche Manufacturing Co., 1631 Cordova St., Los Angeles, Calif. This model has a freezing capacity of 20 gallons of ice cream a day and hardening room for 25 gallons as the freezing end can be used for hardening as well as freezing. It is also equipped with a pre-cooling compartment for holding batch or mix before freezing.

This model can be operated by any condensing unit having a rating of 250 pounds ice melting capacity and using either sulphur dioxide, methyl chloride

or ammonia. Five 5-gallon cans are furnished with this model. With the 2 1/2 gallons of mix, 4 1/2 gallons of ice cream can be turned out in about 10 minutes, according to the manufacturers.

The cabinet is 6 ft. long, 35 in. wide and 35 in. in height. A dasher freezer is used and is operated by a 1/2 h. p. motor, which sets on top of the cabinet beside the freezer head. The cabinet is lined throughout with copper and encased with steel with a white duco finish, the top and trim is of Monel Metal, the freezer head is nickel plated and adds to the appearance of cabinet.

MANUFACTURERS OF ICE CREAM CABINETS

We will build Ice Cream Cabinets to your design ready for installation of compressors

REPLACEMENT PARTS FURNISHED

MOTORS METAL MFG. CO.
5936 Milford St. - Detroit, Mich.

FLINTLOCK CONDENSERS

Efficient — Economical
Compact

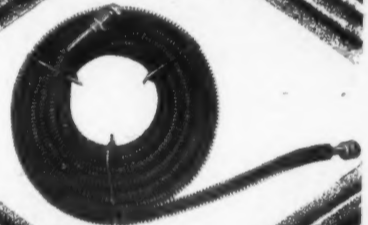
Greater Efficiency
at Less Cost

WRITE FOR OUR BOOKLET

FLINTLOCK CORPORATION

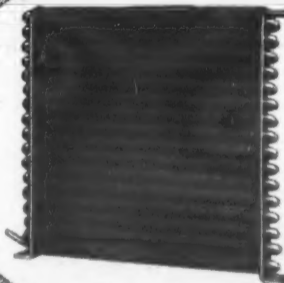
4461 W. Jefferson Ave.
DETROIT, MICH.

MCCORD BUILT CONDENSERS



Type "B" Spiral Fin Continuous Coil
McCORD CONDENSER

The popular "bee hive" condenser designed to occupy a minimum of space. It is installed so that all air currents created by the fan pass over the coils giving great capacity with a small amount of tubing.



Type "A" Double Row Spiral Fin
McCORD CONDENSER

Adapted to the larger refrigerating units used commercially and for apartment house installations. This condenser is made up of seamless, bright annealed tubing with continuous corrugated spiral fin that has made McCord condensers leaders in the field.



Type "A" Triple Row
Continuous Tube
McCORD CONDENSER

MCCORD RADIATOR & MFG. CO.
DETROIT MICH.

COPELAND SALES SCHOOLS AND CONFERENCES



The Pennsylvania Copeland Dealers Met With McKean Co., Pittsburgh, on Feb. 22.



The Boston Conference was Held Under Direction of Beaudette & Graham, March 1.



Banquet Ending the Kansas City Meeting, March 18, at the Hotel President.



Copeland Refrigeration Co. of New York Held a Conference at the Hotel Pennsylvania.



No. 1: Sales meeting with the Carnegie Electric Co., Cleveland, April 5. No. 2: Baltimore Copeland Co. held its conference March 29. No. 3: Rochester Sales meeting was April 3,

under direction of Thomas J. Northway, Inc. No. 4: Copeland Refrigeration Co. of Oklahoma met at Oklahoma City March 21. No. 5: Distributors of Wilkesbarre and Scranton met at Williams-

port March 27. No. 6: Copeland representatives in St. Louis met with Copeland St. Louis Co., March 14. No. 7: Eastern Pennsylvania dealers met in Philadelphia, March 20.

COPELAND MEETINGS DRAWING TO CLOSE IN WESTERN CITIES

ONE of the early meetings of the series of Copeland Products, Inc., conferences was held in Pittsburgh with the McKean Co. Edgar D. McKean, president of the company, presided at the meeting. W. D. McElhinny, vice-president in charge of sales of the Copeland Products, Inc., spoke. Jack Leonard and Ted MacGrath of the Seegar Refrigerator Co. attended the conferences. Forty dealers from the Cleveland district attended a sales school conducted under the direction of the Carnegie Electric Co., at the Statler Hotel, Cleveland, April 5. R. P. Scott, zone manager for Copeland Products, Inc., described the Copeland line and outlined the latest plans of the factory.

The sales school held by the Beaudette & Graham Co., Boston, celebrated the anniversary of taking over the Copeland distributorship. Approximately 125 dealers and salesmen attended. Speakers at the meeting were W. D. McElhinny, D. B. Henry, George C. Graham, president of Beaudette & Graham; W. A. Blachford, Edison Electric Illuminating Co., Boston; E. W. Nickerson, Auburn Electric Shop, Auburn, Me.; J. W. Barren, and George W. Sprague, wholesale representatives,

and Arthur L. Sullivan, sales manager of Beaudette & Graham.

Sixty Copeland dealers of Oklahoma attended a convention at Oklahoma City March 21, conducted by the Copeland Refrigeration Co., of Oklahoma. Mr. McElhinny and other officials from the factory spoke.

Eastern Pennsylvania Copeland dealers met at Atlantic City with the Schimmel Electric Supply Co. One hundred fifty-seven attended, among them distributors from Wilkesbarre, Harrisburg, Reading, Lancaster, Trenton, N. J., Bethlehem, York, Baltimore, Camden, N. J., Chester, Pa., and Wilmington, Dela.

Twenty-seven Copeland men, representing five dealers in the Baltimore district attended a meeting at the Baltimore Copeland Co., March 29.

Fifty-seven attended the conference held at Williamsport, March 27. J. G. McCollister, special representative of the Commercial Credit Co., of Baltimore, explained the credit plan of financing Copeland purchases.

Conferences were held in St. Louis on March 14, in Kansas City on March 18, and in Philadelphia, March 20. Conference in Rochester, N. Y., was held April 3.

Mr. McElhinny and Fred Hancock of the commercial department are now in the West holding conferences there. The first meeting was in Spokane, following that was a meeting in Seattle, April 22 and 23. Five days are planned in San Francisco with George Campe, Inc., and following conferences will be held in Los Angeles, Denver, and Omaha.

EMPIRE DISTRICT ELECTRIC CO. REPORTS 129 UNITS SOLD IN FIRST QUARTER OF THIS YEAR

The new business department of the Empire District Electric Co., Joplin, Mo., reports that 129 electric refrigerators were sold during the first three months of this year. These sales represented a total of \$44,469.07. The sales of electric refrigerators during the first quarter was more than four times that of the same period last year. During the first three months of 1928 thirty-one units were sold.

March sales were the largest of the 3-month period. Ninety-four units representing a value of \$30,150 were sold during that month. M. B. Langford was high salesman having a total of 21 sales since February 3.

Minneapolis Model Home Has Copeland Refrigerator

A Copeland electric refrigerator is part of the equipment of one of the model homes built by the Pioneer-Press, St. Paul, Minn. The installation used is a remote control unit located in the basement and, since the opening of the house, has attracted wide attention. More than 4,000 persons visited the house the first day it was opened. The installation was made by the W. S. Nott Co., Copeland distributors in Minneapolis, acting in co-operation with the Pioneer-Press.

Makes Four Milk Cooler Installations

Four milk-cooler installations were made recently by Clifford J. Benedict, Copeland distributor at Warwick, N. Y., in the heart of Orange County, a large dairy section. Two installations were made with Copeland model H condensing units capable of cooling eight 40-quart cans of milk at a time. Another was a model R unit capable of cooling six 40-quart cans and which also was connected with a refrigerator in the house for domestic purposes. The fourth one was a model R capable of cooling six 40-quart cans.

Electric Refrigerators Displayed At Seattle Electric Show

Among exhibitors at an Electric Exposition conducted by KJR, broadcasting station of Seattle, Wash., were the General Electric, Electro-Kold, and Copeland refrigerators. The exhibit was from March 25 to March 30.

Copeland Holds Sales and Service School at Denver This Week

Approximately 35 Copeland dealers in Colorado and Wyoming are attending a sales and service school being held this week in Denver. H. J. Burman, Copeland factory representative, is in charge of the school, which will close on April 27.

CENTRAL WEST PUBLIC SERVICE CO. HOLDS CONFERENCE IN OMAHA

Central West Public Service Co., Omaha, Nebr., held its annual conference at the McGraw Electric Co., April 17, 18. Managers of company plants in Minnesota, North Dakota, South Dakota, and Nebraska attended the meeting. Managers of several subsidiary companies were present.

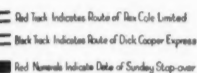
Talks were made by H. B. Bartling, vice-president, and Clyde Andrews, sales manager, of the Porter-Fox Co., Chicago; A. J. Cole, manager of the McGraw Electric Co., and Frank Milholland, president of the service company.

Newark Copeland Dealer Enlarges Showroom

The Industrial Sales Engineering Co., Inc., Newark, N. J., Copeland dealer, has enlarged its showrooms, giving sufficient space for a display of the Copeland household line and a full line of commercial cabinets and show cases equipped with Copeland systems. Such features as the Zero Tube and multiple hook-up with variable temperature control, are shown.

Electrical manufacturing establishments numbered 1,777 in 1927, against 1,739 in 1925, according to a recent report by the Bureau of the Census.—*Electrical World*.

CHICAGO *Five Million Dollar Sales Contest* GENERAL  ELECTRIC NEW YORK
Refrigerator



COLE = CLEVELAND = COOPER

SERVEL STOCK IS DISCUSSED FROM BUYERS' VIEWPOINT

**The Housewives
of America**
Want Electric Refrigeration
Cash in on this demand with

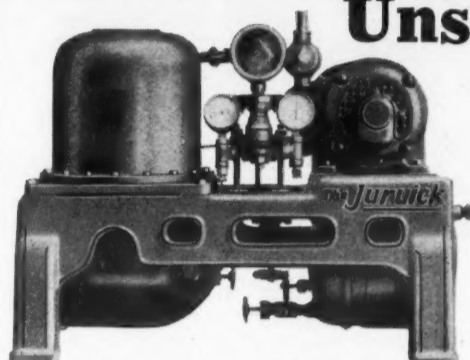


WILLIAMS ICE-O-MATIC REFRIGERATION

Stanley Knight Equipment Expedites Service In Winnipeg Sweet Shop



NOTICE
To all Interested in our protest against Public
Utility Monopoly Competition in Electric
and Gas Appliances and Merchandise.
COPY ON REQUEST
Additional copies desired for distribution
furnished at cost.
MERCHANT & EVANS CO.
2035 Washington Ave. Philadelphia, Pa.



A few good territories still open for responsible representatives qualified to install and service these machines.

The complete Juruick line includes machines up to 30 tons capacity
AMERICAN ENGINEERING COMPANY
 2420 Aramingo Ave., Philadelphia, Pa.

Surpassed
The
JURUICK
LINE

In every feature... with quality built into every detail... silent, smooth performance... automatic control... simple design... easy to operate... economical... easy for the dealer to sell.

WILLIAMS OIL-O-MATIC HEATING CORPORATION
Bloomington, Illinois

Temperature Variance of 2 to 4 Degrees Has Marked Effect on the Time Food Can Be Kept

Lower Humidity Found Desirable in Household Unit; Hydrogen Ion Concentration Is Only Slightly Affected

TWO refrigerators of the same make and practically identical cabinets, one electrically controlled and other using ice, were used in tests carried on at Teachers' College, Columbia University, by Victoria Carlsson. The tests ran through a period of four months.

The box using ice was refilled every morning. Temperature averages were determined by using two kinds of thermometers, ordinary laboratory thermometers read three times daily, and maximum and minimum thermometers read once every twenty-four hours.

Temperatures ranged on the top shelf from 47 to 53 degrees in the ice refrigerator and from 45 to 49 degrees in the electric refrigerator. The middle shelf temperature ranged from 44 to 47 degrees in the ice refrigerator and 42 to 45 in the electric refrigerator. The lower shelf showed a range of 39 to 42 degrees, and 36 to 39.

Humidity tests were made and the warmest and coldest shelves of the ice refrigerator showed 54.83 and 74.07 mean relative humidity and the same shelves in the electric refrigerator showed 41.35 and 54.36.

Lettuce was kept in both refrigerators to gain a practical moisture test. Unwrapped loose leaf lettuce showed the outer leaves wilted more rapidly in the electric refrigerator and discolored more in the ice refrigerator. The inner leaves were always more crisp and less discolored in the electric refrigerator.

Head lettuce was soaked in cold water for one-half hour, then cut in radial sections of definite size and weight. These were then wrapped in pieces of cheesecloth of the same size and weight and which had been soaked in water. These packages were taken out and weighed daily for five days. The results show, as the humidity test, how much drier the air in the electric refrigerator is. Giving the loss of moisture in the ice refrigerator first, on top shelf the range was 38.8 to 37.6 and 46.4 to 41.6; middle shelf, 34.6 to 31.1 and 36.7 to 39.0; bottom shelf 34.6 to 31.1 and 38.6 to 37.2.

Tomatoes Are Tested

A number of experiments were conducted on the appearance and keeping qualities of tomatoes. Those kept in the electric refrigerator were invariably firmer and the keeping period was definitely prolonged. In three days' time there appeared no change in those in either refrigerator. At the end of seven days those in the ice refrigerator had become a little softer but retained a smooth surface. Those in the electric machine remained firm and showed a few wrinkles. The results remained the same in both cases after ten days. At the end of eighteen days, the tomatoes from the ice refrigerator were suitable only for use in soup, while those in the electric refrigerator were suitable for immediate table use. In twenty days the ice refrigerator had rendered the tomatoes very soft and spoiling and those in the electric refrigerator were quite soft though not spoiled. In twenty-two days the ones in the ice refrigerator were spoiled and the others suitable in part for use in soup.

In the case of second-grade tomatoes with broken surfaces, a week was as long as either refrigerator would keep them, the ice refrigerator showing more growth of mold but enough appearing on those in the electric refrigerator to make them unfit for use.

Bacterial Increase in Soups

Bacterial increase was studied in the two refrigerators in chicken stock, vegetable and split pea cream soup, and milk. In the lower shelf of the ice refrigerator the bacterial count increased in Grade A milk from 162,400 direct count to 300,828 in 24 hours and to 2,945,919 in 48 hours. In the electric refrigerator the count increased from 153,430 to 240,630 in twenty-four hours, and 2,077,346 in forty-eight hours. With grade B milk kept on the same shelf in the ice refrigerator the increase was from 362,480 original count to 1,113,100 in 24 hours and 30,385,300 in 48 hours. In the electric refrigerator the count increased to 992,270 in 24 hours and 19,554,750 in 48 hours.

Grade B cream was tested in the two refrigerators with that in the lower shelf of the ice refrigerator increasing from an original count of 5,685,900 to 48,844,000 in 24 hours and to 99,679,000 in 48 hours. In the electric refrigerator the organisms increased from an original count of 13,860 to 36,706,900 in 24 hours and 78,219,300 in 48 hours.

In testing chicken stock, samples were kept on each shelf in the two refrigerators. On the top shelf the rate of increase in the ice refrigerator was 11.1 and in the electric, 9.4 for 48 hours. Rates for five days were 8.82 to 8.03; for fourteen days, 208.5 and 153.0. Figures

for the middle shelf in the same order were 9.4 and 7.5; 8.03 and 6.46; 146.7 and 130.4. For the bottom shelf results were 4.1 and 2.2; 5.89 and 3.82; 78.8 and 67.6. Conclusions drawn were, that unless chicken stock is kept in the bottom shelf, it is not suitable for use after fourteen days, either in ice or electric refrigerator.

Similar Results Gotten

In testing vegetable soup the rates of increase were, in order of ice refrigerator, top shelf, electric refrigerator, top shelf, middle shelves, and bottom shelves, twenty-four hours, and forty-eight hours: 8.81 and 6.60, 82.5 and 76.6; 6.10 and 6.06, 76.1 and 66.4; 5.80 and 4.06, 63.1 and 43.7. In split pea cream soup results in same order were: 10.10 and 5.5, 78.3 and 39.6, 4.41 and 3.1, 38.3 and 34.5, 2.8 and 2.78, 25.7 and 24.

Tests on beef broth, roast chicken, eggs, and gelatin gave similar results. H-ion concentration results showed little difference in the two refrigerators, the greatest variance being 0.2.

In testing absorption of odors, odoriferous foods were placed on the middle shelves and milk, cream, and butter placed on the top shelf and under the cooling unit. The majority of sixteen tasters agreed that the food on the upper shelf of the electric refrigerator had less odor but little difference was found in the food under the cooling units in the two refrigerators.

General conclusions drawn were "All our practical tests have indicated that in both refrigerators undesirable changes take place less rapidly in the parts where the lower temperatures are maintained. Since lower temperatures and lower humidity or drier air are found throughout in the electric refrigerator, it therefore has the advantage over the ice refrigerator in inhibiting bacterial increase and maintaining food quality. When to this we add such hygienic values as increased cleanliness and the convenience of operation, it is safe to predict that in the future electric refrigerators will become more common as household devices."

NELSON & WELLS APPOINTED KELVINATOR DISTRIBUTORS

Nelson & Wells Co., 61 Silsbee St., Lynn, Mass., have been appointed distributors for Kelvinator Corp., for the north shore of Massachusetts. Officers and executives of the firm are

Ernest E. Nelson, president; Amos E. Russell, vice president and sales manager; Chas. D. Lillie, commercial sales manager; Lewis Cunningham, service manager. Recent appointments include D. A. Donovan, Jr., Spencer A. McLellan, domestic sales supervisor, and Alexander McGregor, Jr., wholesale manager.

Among recent installations made by Nelson & Wells Co. are: Thos. Duncan, 32 apartments, Ives and Lothrop Sts., Beverly; Elliott Apts., 16 apartments, Lynn; Liberty Hall Annex, 32 apartments, Liberty St., Lynn, and The Richardson Apts., 33 apts., Wakefield, Mass.

Commercial installations include water coolers in the Bresnahan Shoe factory, the Shoe City Wood Heel factory, W. A. Keith Market, Broadway, Lynn; Howard's Market, 47 Myrtle St., W. Lynn; Friend Bros. Food Shoppes, three stores, Brookline St., Lynn.

Charles E. McQueeney, 227 Cabot St., Beverly, Mass., and Eugene H. Harnois, 314 Broadway, Lynn, Mass., have been appointed dealers.

G. E. GATHERS DATA ON ELECTRIC REFRIGERATION FOR UTILITY COMPANIES

The important part that the electric refrigerator plays as a load builder and a major sales item for public utility companies is described in a book entitled, "The Load Builder," prepared by the electric refrigeration department of the General Electric Co., Cleveland, Ohio. Charts showing the growth of public acceptance of electric refrigeration during the past four years and how in dollar value the electric refrigerator has assumed first place in major appliance sales are included in the book. These charts indicate that during 1928 the value of domestic electric refrigerators sold is placed at \$128,700,000. The number of units sold is placed at 468,000.

Figures given in this book reveal that only seven out of every 100 wired homes have been sold electric refrigerators. Of the 93 remaining unsold, 23 are immediate prospects for electric refrigeration. Tests made by Harry A. Snow of the Detroit Edison Co., Detroit, prove the ability of the electric refrigerator to build up valleys in the load curve. These tests show that the refrigerator creates a greater annual revenue per kilowatt of demand than any other electrical appliance.

A special campaign for public utility companies is also outlined in the book. Sales and advertising helps for central stations are described.

REFRIGERATOR DEMONSTRATIONS ATTRACT VISITORS TO DETROIT EDISON ELECTRICAL EXHIBIT

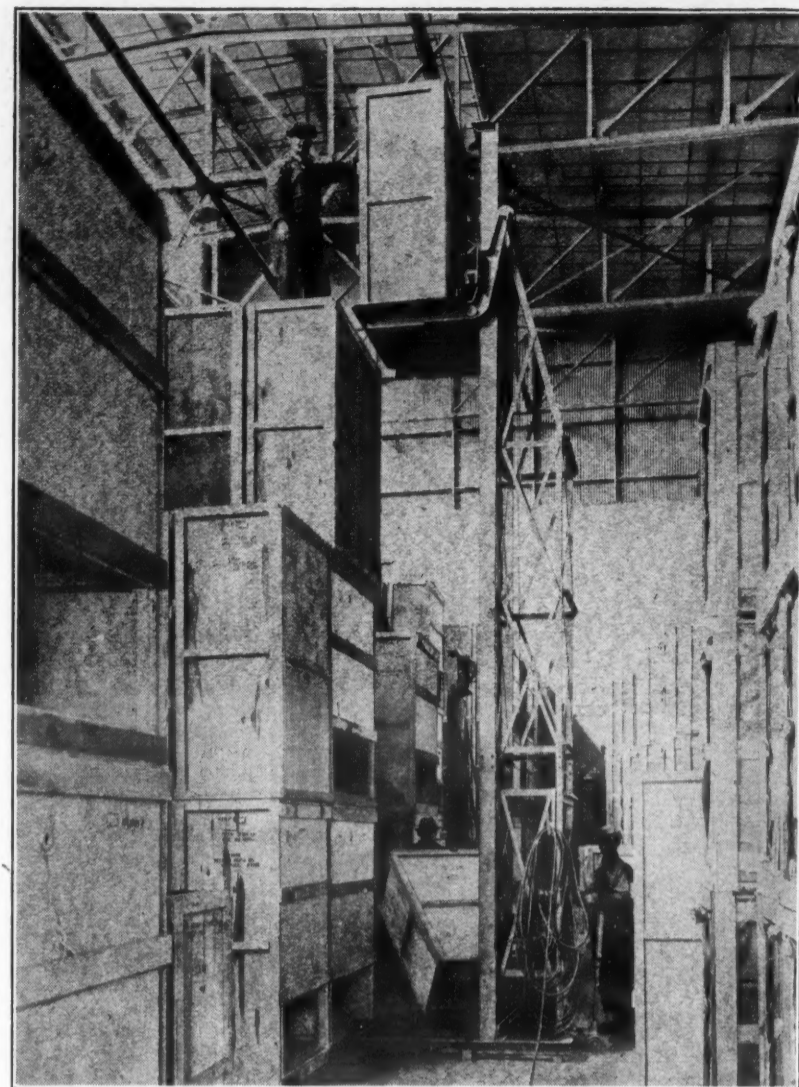
Fourteen hundred three visitors attended classes or inspected appliances at the Electrical Exhibit, 214 Bagley Ave., Detroit, during February. The exhibit is sponsored by the Detroit Edison Co.

Of this number 338 attended classes which dealt with frozen desserts, refrigeration, and electric cookery.

In January there were one hundred sixty-seven attended classes dealing with refrigeration and electric cookery. During January there were thirteen hundred and one visitors at the Exhibit.

In April there were fifteen hundred and fifteen visitors with 309 attending classes in electric refrigeration and electric cookery.

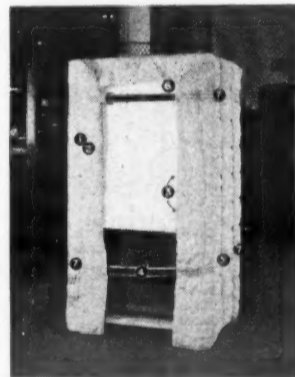
Tiering Machine Solves Handling and Storage Problems at Seeger Plant



The tiering machine shown above manufactured by the Standard Conveyor Co., North St. Paul, Minn., is used at the factory of the Seeger Refrigerator Co. in St. Paul for stacking refrigerators. This machine has a capacity of 1,500 lbs. and piles cabinets to a height of 28 ft.

7 reasons why Webb Slingabouts save money for the refrigerator dealer—

- 1 Its cover of heavy canvas is extra tough.
- 2 The thick cotton padding softens the hardest blows.
- 3 A flannel lining next to the refrigerator keeps unmarred its high finish.
- 4 Where the buckle strain comes there is a re-enforcement of $\frac{1}{8}$ " sole leather.
- 5 All sewed connections on the harness are triply strengthened with copper rivets.
- 6 The open back makes possible a quick, time-saving, slipping on and slipping off of the Slingabout.
- 7 Convenient handholds everywhere.

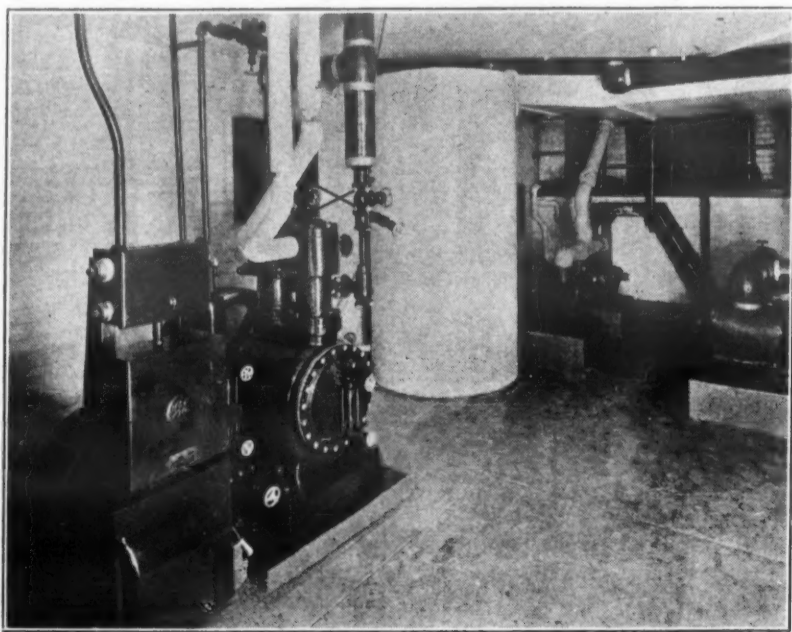


FASTER, easier deliveries (more deliveries in the same time, with the same overhead); no damaging or marring of refrigerators in transit; net profits increased by removal of need for retouching or repairing installed refrigerators or of carpentry, painting,

or repapering work in customers' homes. Every one of the 7 points above helps toward one of these 3 profit-making advantages. Write us what line you handle, and we will quote you prices. Charles J. Webb & Company, 116 Chestnut Street, Philadelphia, Pa.

WEBB Slingabout

Brunswick-Kroeschell Unit Cools Water and Refrigerators in Banking House



The Brunswick-Kroeschell ammonia unit shown in the above photograph was installed in the banking house of Drexel & Co., in Philadelphia, Pa., by the Goetz Ice Machine Co., distributors of Brunswick-Kroeschell ice machines in Philadelphia. This unit makes 600 pounds of ice per day and circulating brine cools the drinking water used in the entire building and refrigerates the vegetable and meat coolers on the fourth floor. In the background the water cooling tank and water circulating pumps can be seen.

M. & W. CO. 1876

LACQUERS ENAMELS

A Lacquer Finish that Has Stood the Test M & W REFRIGERATOR LACQUER ENAMELS

A Quality Reputation on these products has been established through actual large quantity production on Cabinets widely distributed throughout the world. Another complete M & W Finish including either Lacquer or Oil Primer followed by M & W Lacquer Enamel in White or Colors. We invite your correspondence regarding your particular problems.

MAAS & WALDSTEIN CO.

EXECUTIVE OFFICES AND PLANT, 438 RIVERSIDE AVENUE NEWARK, N. J.

CHICAGO OFFICE AND WAREHOUSE 1115 Washington Blvd. West

LOS ANGELES OFFICE AND WAREHOUSE 1214 Venice Blvd., Los Angeles, Calif.

SPARKLETS PRESENTS MERCHANDISING PLAN

A COMPREHENSIVE prospectus entitled, "The Sparklet Refrigeration Blue Book," has been issued by Sparklets, Inc., New York, N. Y., to aid distributors, dealers and public utility companies in the merchandising of electric refrigerators. The two-fold purpose of this book which is outlined in the introduction is:

(A) To thoroughly explain the most successful method of using Sparklet syphons and the Sparklet aeration process as aids in selling electric or gas refrigerators.

(B) To become a handbook of refrigeration merchandising plans, giving a complete outline of sales procedure, and providing a multiplicity of sales helps, including newspaper advertising.

Data contained in this book is a consolidation of successful sales plans used by dealers during the past year. Successful campaigns were carried on in Toledo, New York City, Jackson, Miss., Calgary, Winnipeg, Edmonton and Vancouver, Canada, Chicago, San Francisco and in many other cities. The merchandising plan as outlined in the book proceeds in a very definite manner. Each page contains information which follows a set program. First, the organizing for the campaign is thoroughly treated, and here points, such as preliminary preparation, activities calendar for a four weeks campaign and getting the prospect, are given. Next, the method of conducting the demonstration and arranging the showroom for the drive are discussed.

Photographs of windows tying in the plan are shown. Two telephone solicitations which are to be used every day during the campaign are suggested and methods of making sales during demonstrations are described. Four publicity stories to be used in newspapers are offered. Invitations with name of the refrigerator sold by the dealer are furnished at a very small cost. These are mailed to all prospects requesting their attendance at the Sparklets demonstration. Booklets, display cards, and other window trim helps are illustrated in the book.

Newspaper advertising is thoroughly discussed and four large and four small advertisements for use by dealers are made available in this section. Next, a banner which should be displayed in front of the dealer's store during the campaign is illustrated. The message that trucks and delivery vehicles should carry is also illustrated.

The follow-up of refrigeration prospects obtained during the demonstration is next treated. A letter to women who attend the demonstration is suggested. Another letter is also to be sent to prospects. Prizes to be awarded to salesmen are also discussed and recipes to be used in the demonstration are elaborated on.

Do Your Salesmen Know Where They Are Going When They Leave the Office?

By J. M. Milhon

WHY is it that a salesman, after the morning salesmeeting, will go out-side and stand on the sidewalk, look from left to right for half an hour, get in his car and drive over on the east side of town, and, when he gets over there, happens to think of a west side prospect—that he has just got to see that morning? Why is it that he turns his car around, drives over on the west side and very timidly saunters up to the front door, and finally musters up enough courage to press the door bell and just as soon as he does he hopes that the prospect is not in so that he will not have to meet her face to face?

Do your salesmen know, when they leave the office every day where they are going, who they are going to see when they get there, and just what they are going to say? Why shouldn't they?

This is a part of the co-operation that you can give your men. I have always said that, with the specialty men, you must make it easy for them to get orders.

The average specialty salesman has a desire to do the things that produce business—if you would say to one, "John, I want you to chop a cord of wood today, right there is the wood," or to another, "Harry, I want you to walk from Main street to Oak street," or to another, "Jim, here are some circulars, leave one at every door," you would find that each would do the task assigned and more. The reason that specialty salesmen remain specialty salesmen is because they lack the initiative to plan their own work to the best advantage.

Salesmen cannot be "pepped" into selling in this day of keen competition and prudent buyers, neither can they be made to sell by pouring "ginger" talks into them. It is equally futile to scold them, drive them, or threaten them with the whip of fear. These methods are out of date. The specialty salesman must be trained before he can sell, his work must be planned for him, and he must be routed. Of course, there are men who can do this for themselves but you don't get any or many of these

in the specialty business, if you do, you cannot hold them without promoting them very soon.

Another thing that must be done, is to assist the men in their effort by sending well written letters, high class circulars, and special activity from the office. These activities must tie-in with the salesman's.

Hand each salesman each day a prospect sheet with the names and street numbers of every resident on that particular street, see that he spends his mornings planting the seed for a harvest of interviews by an approach of the "You" attitude, leaving a circular at this call. After he hands in this sheet, send to the ice users a nice circular or carefully worded letter and within a week send the salesman around again to the homes of ice users with another approach of the "You" attitude.

Do not try to get a sales interview on the first time around while making a "Cold" canvass. Attract attention and arouse interest first, then on a second or third call attempt to create desire, after the first steps in any sale have been covered.

LEONARD REFRIGERATOR CO. AVERAGE 1500 UNITS DAILY FOR FIRST QUARTER OF YEAR

Daily production of the Leonard Refrigerator Co., Grand Rapids, Mich., averaged 1,500 refrigerators during January, February, and March, according to a report from the factory. High production peak was reached March 22, with 1,702 finished cabinets. Officials of the company predict a production of 2,000 cabinets a day for April.

Monthly output from the warehouse for train transportation was 260 carloads. In addition to this automobile trucks are used for delivery where possible.

Rustic Restaurant is Copeland Refrigerated



Farm Restaurant, Syracuse, New York

Copeland electric refrigeration is used in the Farm Restaurant, in Syracuse, N. Y., an eating establishment which has attracted country-wide attention due to its unique scheme of decoration and operation, as well as its excellent food.

The dining room boasts the most modern equipment, set in the midst of rustic simplicity, being designed to give the impression of a farmyard. The counter, behind which the chef and his assistants serve the meat orders, represents an attractive farmhouse front door.

A Belding-Hall 12 cubic foot storage refrigerator is used, equipped with a Model "H" Copeland condensing unit and Copeland "SP" system 171. A four-hole ice cream cabinet also is Copeland operated, while to insure cold water at all times a Copeland Model "LC" water cooler is used. This operates directly from the city water mains and is designed especially for the quick filling of water glasses.

American Engineering Co. Moves Stoker Division Office In New York City

The American Engineering Co., Philadelphia, Pa., manufacturers of Jurick refrigerating machines and marine equipment, Taylor stoker and Lo-Hed hoists, announces the removal of its stoker division offices on April 20 from 100 Broadway, to the American Radiator Bldg., 40 West 40th St., New York, N. Y.

ELECTROLUX DISTRIBUTOR REGULATES ALL UNITS TO MEET LOCAL CONDITIONS

The Hajoca Corp., Electrolux distributor in Philadelphia, Pa., has inaugurated a system of testing and adjusting the refrigerators in its service department. The refrigerators are received from the factory and stored in its warehouse where a test room is so arranged to have twenty units undergoing adjustment and inspection at all times.

During the tests a complete card record is taken of each refrigerator. This information includes such items as final temperature, water consumption, gas adjustment, thermostat, etc. Each unit is kept on test until it maintains the proper refrigerating temperature under local conditions. The machine is then thoroughly inspected and cleaned preparatory to delivery.

Registered plumbers are employed by the Hajoca Corp. in the installation department. These men install and connect the copper tubes, light the gas burners, and see that the water flows and that the drain connection conforms fully to local conditions. Within twenty-four hours after the installation an inspector checks the work and operation of the unit. In the event of subsequent adjustment, the service man is equipped with the original card record. He is readily able to see the entire history of the refrigerator and if the adjustment has been changed it is a simple matter to return to the original condition.

ALEXANDER-SEEWALD OPENS NEW ATLANTA G. E. DISPLAY ROOM

Alexander-Seewald Co., distributors of General Electric refrigerators for Georgia, opened new quarters at 380 Peachtree St., Atlanta, Ga., April 10. A large electric sign carries "General Electric Co." with "Alexander-Seewald Co." below. In the front is a salesroom 40 by 75 feet, which has two large display windows. The walls are tinted green above a three-foot wainscoting of travertine marble with a black marble base. The room is indirectly lighted.

A display platform is in the back of the salesroom. Arched doors on either side lead into the main office of the company and back of this office are private offices.

In the basement is a model institute where schools for dealers are held.

A. L. FINK ELECTRIC CO. HOLDS SALES CONFERENCE, CINCINNATI

Forty-five dealers and salesmen of the A. L. Fink Electric Co., Copeland distributors in Cincinnati, attended a sales convention at the headquarters of Fink Co., Woodburn Ave. at Madison Rd., Cincinnati, March 21. The convention was in charge of L. J. Melvin of the sales registration department, F. M. Hancock of the commercial sales department, and R. P. Scott, Ohio and Pennsylvania zone manager, all of Copeland Products, Inc., Detroit. Mr. Melvin described the Copeland household line and outlined its selling plan. Mr. Hancock outlined the commercial line, and Mr. Scott spoke on Copeland's general plans, particularly in the Ohio district.

ICE-CREAM IS CENTRAL FEATURE OF "THE HOSTESS" MAGAZINE

Ice cream is the feature around which "The Hostess" is written. The magazine is published monthly by Mathews Industries, Inc., Detroit, Mich., and is

furnished creameries and ice cream factories for distribution over the name of these concerns.

Suggestions for serving ice cream, arrangement of the table, and place cards

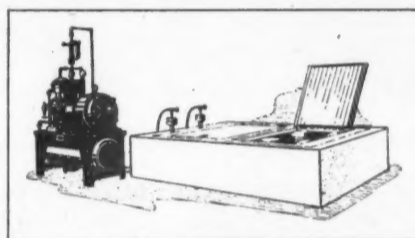
for parties are taken up. While much material is given other than ice cream features, all stories deal with the party where ice cream may be served, the home dinner, or the school lunch.

E. T. L. Service for Domestic and Commercial Electric Refrigeration

Testing and experimental laboratory service for Manufacturer, Distributor, Central Station
Test data exclusive property of client

ELECTRICAL TESTING LABORATORIES

80th Street and East End Avenue, NEW YORK CITY, N. Y.



Dairy Farm Refrigeration

Hand-operated or automatic plants, with either electric or gas-engine drive; all types, using cold water tank or brine system, with or without tubular milk cooler, as desired; make ice when required.

[Write]

Frick Company

Branches and Distributors in all principal Cities



ATTENTION SERVICE MEN

Your tube bending troubles are entirely eliminated the moment you place a

"Handy Tube Bender"
in your service kit

Absolutely guaranteed to give universal satisfaction, and to bend tubing better, easier, and in closer places than by any other method.

Makes right and left hand bends.

3/8 in. size \$5.50 1/2 in. size \$5.50

5/8 in. size \$7.50

F. O. B. Evansville, Ind.

Manufactured and guaranteed by

HOLSCLAW BROS. INC.

108 S. 4th St.

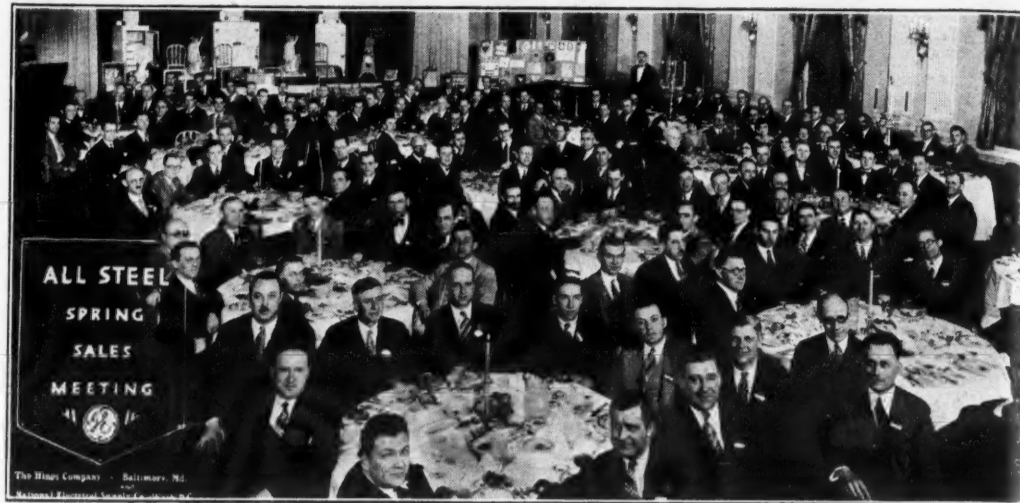
Evansville, Ind.

General Electric, All-Steel, Spring Sales Conferences

Views of Ten Out of a Series of Forty-four Sessions Held from March 1 to April 2



The Philadelphia Meeting was March 27, with Judson C. Burns Co.



The Hines Co., Baltimore, Had a Conference March 27.



Two Companies Co-Operated in the Los Angeles Meeting, March 20.



The Des Moines Meeting Held April 2, With Two Distributors.



The Philip H. Harrison & Co. Were Hosts at the Newark Conference, March 28.



Three Companies Held a Joint Meeting in Pittsburgh, March 28.



The El Paso Meeting Was With E. O. Cone Co., March 28.

KEYS TO G. E. TREASURE CHEST HERALD OPENING OF SEATTLE DISTRIBUTOR'S NEW SALESROOM

Distributing keys to a "treasure chest" through Seattle newspapers served to lend an air of mystery to the opening of new display rooms at 1925 Fifth Ave., Seattle, Wash., by Gordon Prentice, Inc., recently appointed General Electric refrigerator distributors for western Washington and Alaska. These teasers announced the opening of a treasure chest at a certain address in Seattle on March 25 at 11 o'clock.

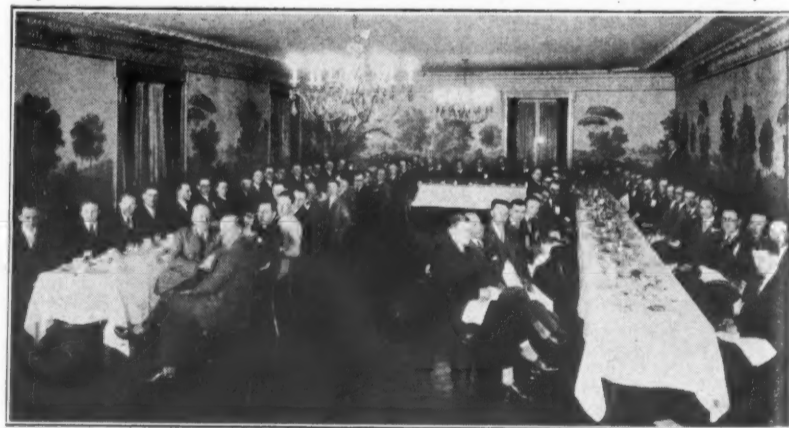
H. H. Pricehouse has been appointed retail sales manager of the new concern. A special training school is being established which will be devoted to apartment and commercial sales as well as wholesale and retail sales.

STORZ ELECTRIC CO. TO OPEN LARGER QUARTERS IN OMAHA

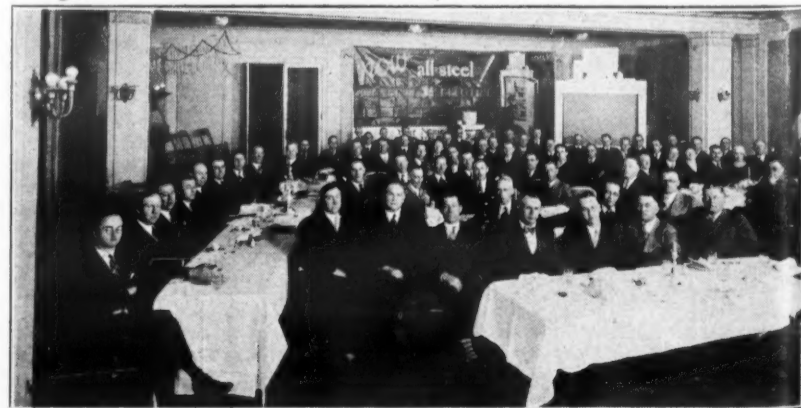
The Storz Electric Co., Omaha, Nebr., distributors of General Electric refrigerators, has closed a contract for a sales and display room in the Masonic Temple Bldg. The new quarters are 44 x 90 feet, with two entrances from the street and large display windows.

A. J. Nellor, manager, stated that alterations being made will cost about \$6,000, while the company expects to spend about \$4,000 in furnishings. The new quarters will be ready for occupancy on May 1.

A quota of 5,540 General Electric units has been set for 1929. This quota is divided as follows: 1,200 for Omaha and 4,340 in the surrounding territory. Recently, the Storz company placed thirteen B 42 refrigerators in the Leigh apartments at 203 South 25th Ave., Omaha.



Gordon Prentice, Inc., Were Hosts at the Seattle Meeting, March 15.



Utah District Holds a Conference at Salt Lake City.



The Meeting in San Antonio Held March 25 With Three Firms.

SCIENTIST SAYS INTRODUCING ELECTRIC REFRIGERATION TO S. AMERICA IS GREAT FAVOR

"Uncle Sam could do his southern neighbors no greater favor than to introduce to them this, the newest of his

Yankee notions," says Edwin E. Slosson of the electric refrigerator, in an article "Cooling Off South America," in the April 20 issue of Collier's. Mr. Slosson says that since 1876 when Charles Tellier equipped his cold storage ship, the Frigorique, to bring beef from Buenos Aires to France, the half century has brought unprecedented prosperity to the Argentine and revolutionized the dietary of Europe.

Believes Small City Good Electric Refrigeration Field

W. S. Whitacre, salesman of the Geo. J. Palmer Co., General Electric dealers at West Chester, Pa., believes that a

small town has good possibilities for electric refrigerator sales. In a three week period, Mr. Whitacre sold thirteen refrigerators. The second week of this period he sold nine large units. West Chester is a town of 11,000 population.

10-Story Jersey City Terminal Uses Ball Ice Machines



Above—The Engine Room; Below—The Storage Building.

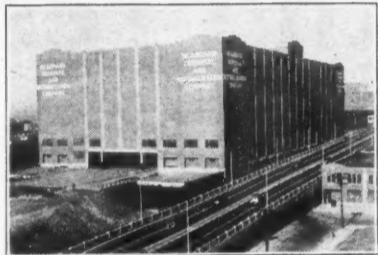
The Seaboard Terminal & Refrigeration Co., Jersey City, N. J., is equipped with refrigerating machinery by the Ball Ice Machine Co., St. Louis, Mo. All refrigerating machinery and engine rooms are in the small building shown on the right. Machinery for making 500 tons of ice per day is also housed here. Refrigeration is piped from this building underneath the viaduct to the main building.

The storage building is 200 by 400 feet, and is ten stories high. The first three floors contain tracks and unloading facilities, the fourth floor, miscellaneous storage, and the upper six floors, cold storage and freezer rooms with approximately one million cubic feet per floor. The building is fireproof.

The view of the engine room alone shows the twin electric driven ammonia compressor units.

The installation of two twin Ball electric driven compressor units in the Empire State Ice Co., 219th Street and Ninth Ave., New York City, has recently been completed by the Ball Ice Machine Co. A 200-ton ice-making capacity was added. The plant was originally 200-ton capacity. Each compressor has two 14 by 24 inch horizontal, double acting compressors operating at 144 revolutions per minute.

Another recent installation was that of



the Madison Square Garden Arena in the new North Station, Boston, Mass.

C. E. ROESCH AND J. J. KEHOE LEAVE GENERAL ELECTRIC

Charles E. Roesch and J. J. Kehoe, connected with the General Electric Co., for several years have resigned their position. Mr. Roesch is now vice president and director of sales of the Florida Electric Refrigeration Co., distributors in St. Petersburg, Fla., and Mr. Kehoe will enter the field of industrial and residence insulation, heading his own company.

Mr. Roesch has been in the refrigera-

tion field for twelve years, and has been with the General Electric Co. refrigeration department since it was organized. He was assistant to the sales manager. He first went with the General Electric Co., in 1911, remaining for six years and then returning again in 1925.

Mr. Kehoe will have offices in Chicago and New York. He went with the General Electric Co. in 1927 following several years with the Texas Oil Co. He was manager of the cabinet division.

In a letter to *ELECTRIC REFRIGERATION NEWS*, Mr. Kehoe writes, "The electric refrigeration industry will have a good year in 1929. But 1930 and several years to follow will open far more profitable avenues of expansion. Chemists and research engineers may succeed in finding synthetic and cheaper substitutes for many of the important items entering into refrigeration manufacture today. Such substitute material, if found, will lower production costs, force down the relative list prices and broaden the market scope for millions of additional families.

"Insulation is somewhat allied with refrigeration. Already there are room coolers on the market and no doubt small homes soon will be refrigerated at moderate cost. When rooms and homes begin to be refrigerated, more attention will be focused on insulation in the walls of the home. It will be folly to cool a room if the heat from outdoors comes in as fast as the interior atmosphere is cooled.

"Aside from refrigeration, there is the problem of economical and thermostatic heating in winter. It is my opinion that in the not too distant future, it will be a requirement of the building code in most cities to insulate residence buildings. In fact it will be a necessary part of the duties of Boards of Health to see that proper safeguards are built into the walls, for the reason that many cases of grippe, influenza and even pulmonary diseases can be directly attributable to the short sightedness and false economy of speculative builders."

PORTLAND DEMONSTRATION ATTENDED BY 1100 WOMEN

Approximately 1,100 women attended a lecture and demonstration given by the Portland Gas & Coke Co., Servel-Electrolux distributors, in Portland recently. The meeting was in charge of J. Earle Jones, assistant sales manager of the company.

A. Edwin Fein talked on Sparklet syphons and demonstrated their use. Ice cream was served after the demonstration.

Among others on the program was the chef of the Palace Hotel, San Francisco, specially invited for the occasion.

Modern Fountain Installation in Wisconsin Union Memorial Building



This attractive fountain was recently installed in the Wisconsin Memorial Building, Madison, Wis., by the Bastian-Blessing Co., of Chicago. It combines fountain service with complete luncheonette facilities—enabling the owner to capitalize to the full on all the demands of 1929 fountain patrons.

All-Electric Ice Cream Route Cuts Operating Cost 20.5c Per Gallon

In a comparison of two sub-stations serving within 100 gallons of ice cream of each other, one whose route was 30 per cent mechanically equipped, showed an operating expense for October, 1928, of 59 cents per gallon; the other, 100 per cent mechanically equipped, showed an operating expense of 38.5 cents per gallon, 20.5 cents per gallon less than the first. This comparison was given before the recent convention of Association of Ice Cream Manufacturers of New York State, by M. W. Hill, of the H. L. Neuman Co., York, Pa.

This company operates an all-iceless route from one of its distributing stations and can collect figures for comparison with services on routes serving ice and salt cabinets.

Some of the items of the comparison were: the average installation cost per cabinet was \$20, the average expenditure for service and repair for each customer was \$19.33, this including 22 cabinets serviced from two to twelve months; depreciation and service on three cars was 7.9 cents per gallon; depreciation figured at 25 cents averaged \$70 per customer, making the total cost per year for each six-hole cabinet \$121.04.

Mr. Hill pointed out that while the company is now serving just as many ice and salt customers as it did at the time it first installed iceless cabinets, delivery costs have been lowered 2.91 cents per gallon.

L. M. McGinley of the Jersey Ice Cream Co., Schenectady, N. Y., president of the Association of Ice Cream Manufacturers of New York State, said before the international convention in 1928, "this industry should be progressive and should provide its dealers with equipment that is desirable, but this equip-

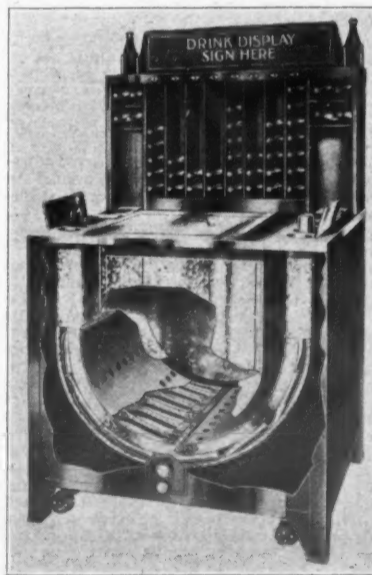
ment should be provided by a method that will not prove unsound nor reflect on our ability to finance this part of our business properly."

Mr. McGinley said of the mechanically refrigerated soda fountain, "There should be no more hesitance in investing in soda fountains than in plants or delivery equipment, as long as fundamentals are not violated and a sufficient return on the investment is received." He followed this statement, made at the New York state convention, with a discussion of plans of ownership of the soda fountain.

In summing up recent opinions *The Ice Cream Trade Journal* says: "It brings us back to the old original problem of iceless equipment installation—a continuing problem but one which the past year's study and facing the cost facts has done much to simplify, if not to solve."

LIQUID CARBONIC CORP. OFFERS BOTTLE COOLER

The type E bottle cooler illustrated here is manufactured by the Liquid Carbonic Corp., Chicago, Ill. Seven openings are arranged on each side of the cooler. Connecting the openings on both sides



Type E Bottle Cooler

are seven channels which pass through the cooling chamber of the unit.

Bottles containing the beverage are placed in the openings at the right and each channel is filled to capacity. When this point is reached each additional bottle inserted causes a bottle to be pushed out through the openings on left side of the cooler.

Armstrong Cork Co. Consolidates Offices at Lancaster, Pa.

The Armstrong Cork Co. announces that it has consolidated the offices of all divisions at Lancaster, Pa. The general office of the company has been removed from Pittsburgh and all executive offices of the Armstrong Cork Co., cork division, and the Armstrong Cork & Insulation Co., with the exception of the purchasing department, which will remain in Pittsburgh, have been moved to Lancaster.

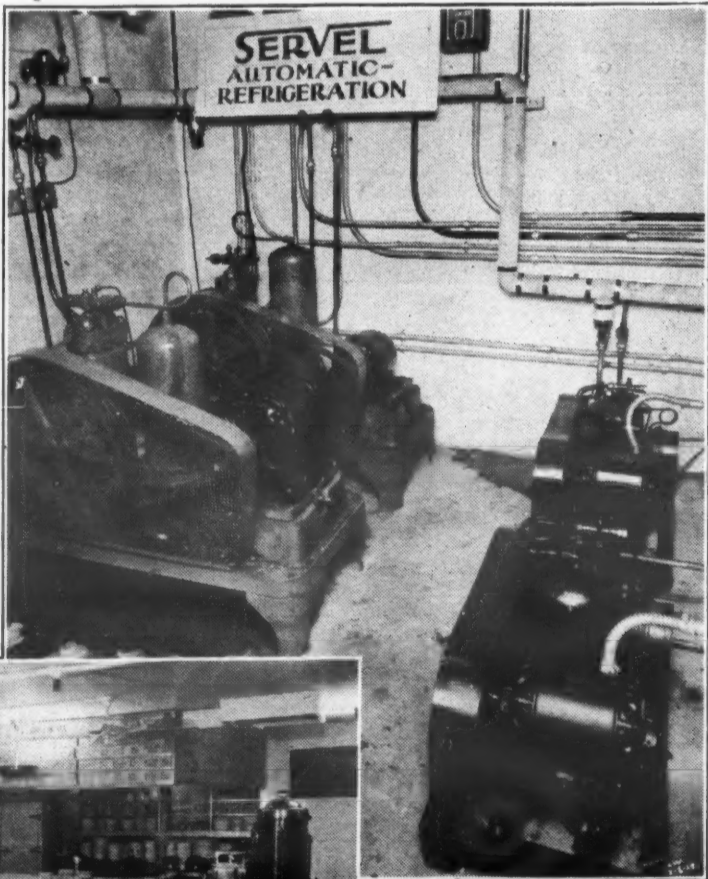
Number of frozen turkeys exported to the United States by Argentina from Jan. 1 to Oct. 31, 1928, was 195,456, valued at \$729,134.—Ice and Refrigeration.

Servel Installation Handles Soda Fountain and Floral Case in Milwaukee Store

EDWARD SCHUSTER & CO., INC., Milwaukee, Wis., recently completed the installation of a beautiful new soda fountain in their 6th and Mitchell street store.

A No. 75-AW Servel machine serves the fountain itself which comprises a storage capacity of 50-gallons of ice cream, together with a bottle storage compartment at each end, water draft arms, and a refrigerated salad section of twelve compartments.

The front of the fountain facing the counters is given over to a lighted display case for pastries, desserts, and other dainties. Located at convenient points in the counter are two refrigerated bottle storage cabinets and four drinking water draft arms which allow quick and consistent service. Each bottle storage cabinet with a capacity of ten cases of bottles and a draft arm, is refrigerated with a No. 30AW Servel machine. A room set aside in the basement below the fountain houses three machines and also a No. 100-AW Servel which provides refrigeration for the floral department.



Above: Basement room showing four Servel condensing units. Left: Servel cooled fountain with a capacity of 50 gallons of ice cream.



PROPOSED REFRIGERATION CODE FOR WASHINGTON, D. C.

PUBLIC HEARING FOR SAFETY CODE HELD AT WASHINGTON, D. C.

A public hearing to consider the proposed municipal regulations governing the installation of refrigerating machinery in the District of Columbia was held in the Board Room of the District Bldg., 14th Street and Pennsylvania Ave., Thursday morning, April 18. Colonel W. B. La Due, engineer commissioner of the District of Columbia, directed the hearing. Representatives of leading manufacturers and prominent local dealers were present. Many objections were offered to the code in its present form. The commissioners agreed to consider the proposed changes and hold another hearing in three weeks. Further details will be given in a later issue.

SCHEDULE OF REFRIGERATION APPARATUS REQUIREMENTS

Draft of April 11, 1929.
Sec. 11-b Gas-fitting Regulations of the District of Columbia (Proposed)

(a) No refrigerating machine or apparatus for lowering natural temperature, or any unit or part thereof, which contains, circulates or uses any gas under pressure, or any fluid to be expanded, for refrigeration purposes shall be installed in the District of Columbia without a permit therefor, and inspection and approval before use.

(b) No permit for any such apparatus to be installed in, or connected with, any church, theatre, school, hospital, asylum, hall or place of public assembly shall be issued unless the application has been especially approved by the Fire Marshal, and such a permit may be issued for installation and temporary operation only, subject to suspension or revocation by the Commissioners twenty-four hours after failure to comply with written notice of a defect or possible hazard by any Inspector having any authority or duty in connection with maintenance.

(c) The permit and inspection fee shall be in accordance with a schedule of fees as adopted by the Commissioners from time to time. This permit and inspection fee shall be distinct and separate from permit or inspection fees for building, plumbing, electrical or other work.

(d) Permits must be obtained before commencing any part of the work of installation, and shall be issued by the Inspector of Buildings after approval of the application by the Inspector of Plumbing (and by the Fire Marshal as provided in paragraph b of this Regulation) and payment of the required fee to the Collector of Taxes.

(e) All refrigerating apparatus and the installation or repair thereof shall be in accordance with "Schedule of Refrigerating Apparatus Requirements" as approved by the Commissioners, and kept on file in the office of the Engineer Commissioner.

(f) Any extension of, addition to, or replacement of the major part of any refrigerating apparatus or system, shall be subject to permit and inspection requirements of this Regulation.

(g) Whenever any part or appurtenance of any refrigerating apparatus or system shall be found leaky or defective or in need of repair, it shall be replaced or repaired in accordance with this Regulation and the Schedule of Refrigerating Apparatus Requirements within forty-eight hours after service of notice from the Inspector of Plumbing (except as provided in paragraph b); and no such defective or leaky refrigerating apparatus or system shall be maintained or operated until such repairs have been made and approved.

(h) Whenever complaint is made by the Fire Marshal of exposed tubing, unguarded machinery, worn apparatus, lack of ventilation, absence of control switches or any other condition in any refrigerating apparatus or system constituting, in his opinion, a hazard to life or property, the apparatus or system shall be immediately put out of service, and shall not be operated until it is brought into conformity with this Regulation and the Schedule of Refrigerating Apparatus Requirements.

(End of Regulation.)

Classification:

Class A—Individual units made up of compressor or absorber and expansion element mounted on the same base and containing, circulating or using not more than ten pounds of refrigerant, and generally shipped completed from the factory; such as domestic refrigerators and ice cream cabinets with all apparatus enclosed within the cabinet. Fee \$1.00.

Class B—Extension units made up of compressor or absorber element and expansion element or elements not on the same base or within the same cabinet, and containing, circulating or using not more than twenty pounds of refrigerant; such as ice cream cabinets with separate compressor outside the cabinet; soda fountain equipment, or domestic or market refrigerators, with separate compressor or absorber. Fee \$1.00 for each compressor or absorber element and \$1.00 additional for each expansion element, or connection therefor.

Class C—Multiple units made up of compressor or absorber element mounted on one base and connected to and with two or more expansion elements, and containing, circulating or using more than twenty pounds but less than fifty pounds of refrigerant; such as domestic refrigerators in apartments, factory cooling units, and similar apparatus. Fee \$1.00 for each compressor or absorber unit and \$1.00 ad-

ditional for each expansion element, or connection therefor.

Class D—Same as Class C except the apparatus contains, circulates or uses fifty or more pounds but less than one hundred pounds of refrigerant. Fee \$5.00 for each compressor or absorber element and \$1.00 additional for each expansion element, or connection therefor.

Class E—Air conditioning and cooling apparatus for single family dwellings. Fee \$10.00.

Class F—Air conditioning and cooling apparatus for flats, apartment houses, hotels, churches, theatres, schools, hospitals, asylums, halls and places of public assembly. Fee \$25.00.

Class G—Commercial ice machines in hotels, restaurants, food factories and similar apparatus. Fee \$10.00.

Class H—Commercial ice machines in ice plants. Fee \$25.00.

Extensions—Fees same as for class.

Repairs—Fee \$1.00.

Approval:

Every compressor or absorber element and every expansion element of any refrigerating or cooling apparatus installed in the District of Columbia must be constructed in duplicate of an original or model which has received the approval of the Underwriters Laboratories, and in the case of separate but connected elements, the method of making the connection and the materials used shall have received the said approval and shall be otherwise in accordance with the requirements of this schedule.

Plans:

Complete plans and specifications shall be filed in triplicate for Classes E, F, G and H.

Permits:

Permits for the installation of refrigerating machines or apparatus complying with the gasfitting regulations and this schedule will be issued by the Inspector of Buildings after approval of application by the Inspector of Plumbing (and the Fire Marshal in Class F cases) and the payment of fees to the Collector of Taxes.

All apparatus furnished and installed and work done in connection with or under any permit issued hereunder must comply fully with all stipulations noted on the application therefor, all Regulations applying to this work and this schedule.

Inspection:

The installation of all apparatus and connections shall be inspected by the Inspector of Plumbing. In the case of compressor, absorber, or expansion element or other entirely exposed work, the application and permit will serve as notice, but in the case of multiple unit systems, notice must be given so that conduit to be concealed may be inspected before covering in on the work, and again after tubing has been pulled in and connection made but before the junction and valve boxes are sealed, and conduit shall not be covered up, or boxes sealed, until such inspection and approval of the work.

Ventilation:

When any part of the building in which refrigerating apparatus (except Classes A and B) is installed is used for human habitation, no compressor, absorber, refrigerant tank or other major apparatus (except an expansion element) shall be located in any room not provided with a suitable window to the outer air, and all doors opening to the habitable parts of the building from such room shall be tight-fitting and self-closing. In the case of classes D, E, F and G, or where two or more class C systems are located in the same building, the room in which the apparatus is placed must be a room set apart exclusively for refrigerating machinery purposes, and shall have gas-tight walls and, in addition to a suitable window, an open louvred vent to the outer air or not less than one square foot for each fifty pounds of refrigerant contained, used or circulated in the system or systems.

Guards:

Heavy wire mesh guards shall be erected around each compressor not located in a separate refrigerating room.

Emergency Switch:

In every case where there are two or more electrically operated compressors in the same building, there shall be provided, adjacent to the main entrance service switch, a conspicuously marked master switch to cut off all compressors in emergency.

Electric Connections:

All electric wiring connections shall be made in accordance with the electric wiring regulations pursuant to permits from the Electrical Department.

Plumbing Connections:

All drain, waste, water supply and illuminating gas connections shall be made by a Registered Plumber in accordance with the Plumbing and Gas-fitting Regulations.

No drain from any compressor, absorber or condenser shall be connected directly with any sewer, soil, waste or other plumbing pipe but must discharge over the surface of an open area, over a trapped, vented and water supplied plumbing fixture, or otherwise as directed by the Inspector of Plumbing.

Brine Connections:

Pipes for circulating brine or other liquid for indirect refrigeration may be of any suitable material, and may be installed by fitters, but must be inspected by the Inspector of Plumbing.

Refrigerant Connections:

(Classes B, C, D, E and F)

All connections between compressor or absorber and expansion elements connected therewith shall be made of seamless drawn copper tubing of not less weight than standard pipe gauge, and extra heavy recessed sleeve pattern cast or forged non-ferrous fittings with each screw thread brased or sweated in place; or of standard ammonia and brine piping construction; or seamless drawn copper tubing of not less than 34/1000 of an inch wall thickness, may be used with S. A. E. tool flared joints or equal, provided the tubing is enclosed in a 1 1/2" or larger, standard Underwriters' rigid or gas-tight flexible conduit, and all connections or

valves are enclosed in gas-tight steel junction or valve boxes.

The conduit must be continuous with gas-tight joints between sections from a point within three feet of a compressor or absorber to a pull box, valve box, or refrigerator casing, and from box to box or from box to casing, and all openings from or into conduit shall be bushed with a rounded bushing to prevent injury to tubing. All valve or pull boxes shall be made effectively gas-tight. Copper tubing must be continuous from box to box or from box to casing, and no joint shall be made and pulled into conduit. Conduit and boxes must be securely fastened in place.

In all cases where two or more expansion elements are connected to the same riser line, connections shall be made through valves for each unit and not to branch connectors. A rigid conduit of the same size shall extend above the high-

est tubing connection box and shall terminate above the roof with a suitable ventilating device.

The expansion element shall be located in a refrigerator or other suitable casing which must be firmly fastened to the floor or wall in a permanent manner before the tubing connection to the expansion element is made, and such connection shall be made inside the casing, the tubing therein properly protected, and the conduit entrance sealed.

Tests:

On completion of installation of any refrigerating system of classes B, C, D, E, F, G, it shall not be put into service operation until the entire system is placed under test specified by the National Board of Fire Underwriters to the satisfaction of the Inspector of Plumbing, and approved.

Extensions and Repairs:

All extensions and repairs shall be in accordance with the requirements of this schedule.

In case of replacement of a compressor or absorber element which is not located in accordance with the ventilation requirements of this schedule, it shall be relocated in compliance with these requirements.

Re-Used Apparatus:

Used apparatus, other than expansion elements, may be reinstalled if in good condition.

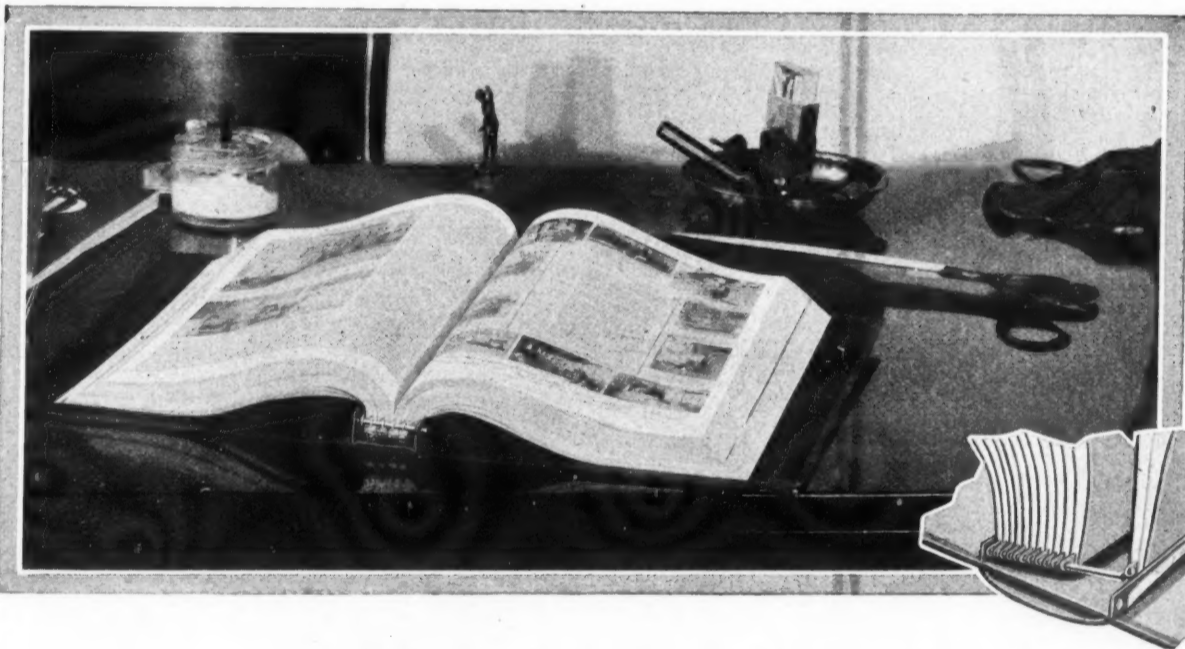
Expansion elements removed, must be factory tested and accompanied by a certificate before they can be reinstalled.

Old copper tubing shall not be re-used.

Valuable Information Is Worth Preserving

MANY of our readers are keeping each and every issue of Electric Refrigeration News in a permanent file, so that they may have this valuable information for ready reference at all times.

For your convenience we offer two very attractive binders designed especially for Electric Refrigeration News. One style has a spring in the binding edge and it is only necessary to open the binder, pressing the backs together to insert new issues or remove those already in place. This binder looks neat whether it contains one issue or twenty-six.



The illustration will give you an idea of the style known as a multiple binder, showing the visibility of type. Also cross section of binding edge shows how the metal retaining strip is put through each issue, making it less likely that a copy may be removed.

Send
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Both binders have stiff board covers and are attractively bound in good quality of black imitation leather. The "spring back binder" has extra heavy covers to prevent breaking when the spring is opened. The name "Electric Refrigeration News" stamped in gold on the front cover of each type. A binder of either type will be shipped postpaid on receipt of \$3.75. Please specify whether you want "spring back" or "multiple" style.

Electric Refrigeration News
550 Maccabees Building
DETROIT, MICH.

AVERAGE METHOD OF PRESERVING FOOD IN HOME IS A MENACE

Dr. Frederic Damrau, in a series of three articles on the household refrigerator carried in *Popular Science Monthly*, estimates that food in nine out of ten families in this country is kept in such a way as to be a menace to their health.

Work of Dr. William H. Park, director of laboratories of the New York City Department of Health is quoted, showing effect of temperature on bacterial growth. Milk showing an original count of 3,000 bacteria per fifteen drops, kept 24 hours at 50 degrees, showed a count of 11,500; at 55 degrees, 18,800; at 60 degrees, 180,000; at 68 degrees, 450,000; and at 86 degrees, 1,400,000,000.

A ratio of the increase of bacterial counts at various temperatures was given as six times in 24 hours at 55 degrees and 1,000 times in 48 hours; at 60 degrees increase was 60 times in 24 hours and 9,000 times in 48 hours; at 68 degrees the ratio of increase was 150 times in 24 hours and more than 150,000 times in 48 hours.

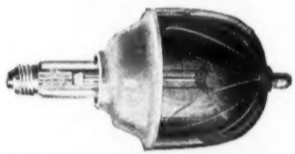
Dr. Damrau points out that not all bacteria are dangerous, nor are all bacteria destroyed or totally inhibited at 50 degrees but he points out that with germs as with drugs, dosage is important and that the difference between pathogenic organisms and those causing food spoilage is that the action of the latter is slow, subtle, and insidious.

Dr. Alec N. Thomson, secretary of milk commission of King's County, New York, one of the greatest authorities on milk as it affects health, is quoted as saying, "Milk containing more than 10,000 bacteria in 15 drops becomes a menace to infant health, and the higher the count the greater the menace."

In 1922, 284 babies died in Baltimore of summer complaint, 58 per cent more than during the average summer. Drs. J. H. Shrader and J. C. Swenarton, officials of the Baltimore City Health Department, showed the ratio of deaths ran parallel to bacterial counts in milk.

RECO COLOR HOODS FIT ON WINDOW REFLECTOR

Reco color hoods are being featured by the Reynolds Electric Co., 2650 W. Congress St., Chicago, Ill. The hoods have been designed for quick, constant



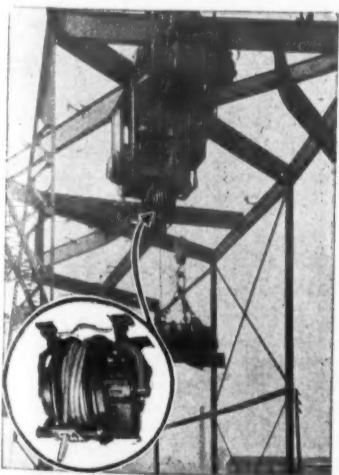
Showing Reco Hood in Place and economical changing of window displays.

The hood fits on the inside of a window reflector over the lamp, being held by a spring device. The hoods come in ruby, amber, green, blue, day-light blue, and canary.

Standardized flashers for electric signs, window displays, and similar uses are also offered by the Reynolds Electric Co.

CABLE PAID OUT AS NEEDED BY REELITE

The constant duty Reelite with ball ring cable outlet illustrated here in connection with a lifting magnet on a monorail overhead traveling crane at the Cohen Iron & Metal Co., Milwaukee, was supplied by the Appleton Electric

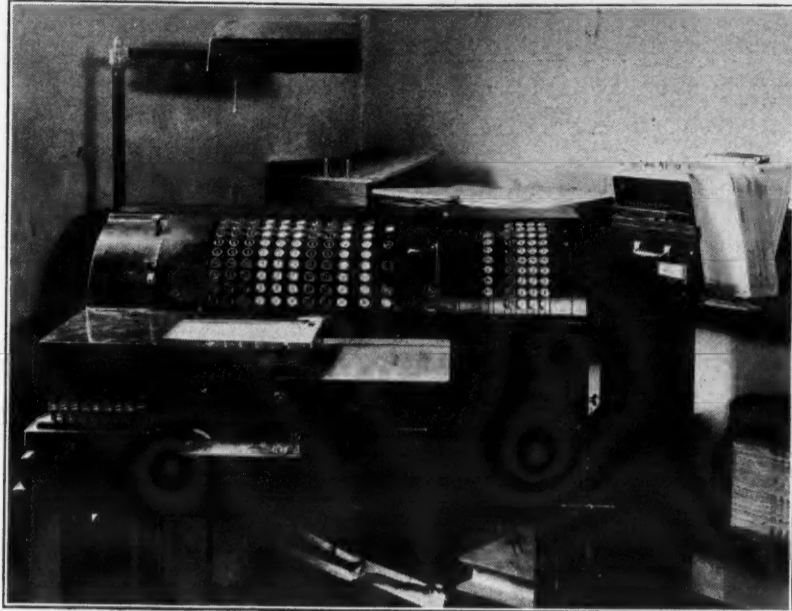


Type C, Constant Duty Reelite

Co., Chicago, Ill. This reel acts as a caretaker for current conducting cables. It pays them out and winds them up as needed.

The Type C constant duty Reelite shown here handles from 35 to 80 feet of cable, the exact capacity being determined by the size of the cable being used. Springs permit the cable to be withdrawn and retrieved either vertically or horizontally. The brushes and collector rings in this model are rated at 100

Bookkeeping Machine Facilitates Work In Distributor's Accounting Dept.



No. AK-2208 (64-UP) National Bookkeeping Machine

The W. P. Galloway Co., Little Rock, Ark., distributors of Frigidaire and Delco Light products, are using a No. AK-2208 (64-UP) bookkeeping machine which was especially designed for them by the National Cash Register Co., Dayton, Ohio, for a complete general ledger posting, accounts receivable posting, for making up customers' statements and distribution of sales.

This machine which is illustrated here has 20 control totals arranged on debit and credit sides. These controls include Delco part debit and credit, Delco repair debit and credit, Frigidaire part debit and credit, Frigidaire repair debit and credit, sub-ledger debit and credit, miscellaneous debits and credits and corrections.

In addition to these control totals, there are five rows of special keys for registering invoice and check numbers and for printing identifying symbols, such as credit memorandum, adjustment, merchandise credit, etc. In the operation of this system invoices are first analyzed in each of four groups for distribution of credits. These are: Frigidaire parts; Frigidaire finished products; Delco Light parts and Delco Light finished products.

One bookkeeper makes the analysis of

invoices and posts the accounts receivable while another bookkeeper posts the general ledger. This system also facilitates carrying records of cost and selling price. The ledger cards are 8 1/2 in. by 6 in. and are ruled in columns to accommodate the machine posting date, invoice number, debit, credit and balance. A column is also provided for memoranda. Statement forms are 6 1/2 in. by 6 in. This machine certifies with printed figures each invoice or form as posted. This device is used by the Galloway company to certify checks that they issue when same are posted.

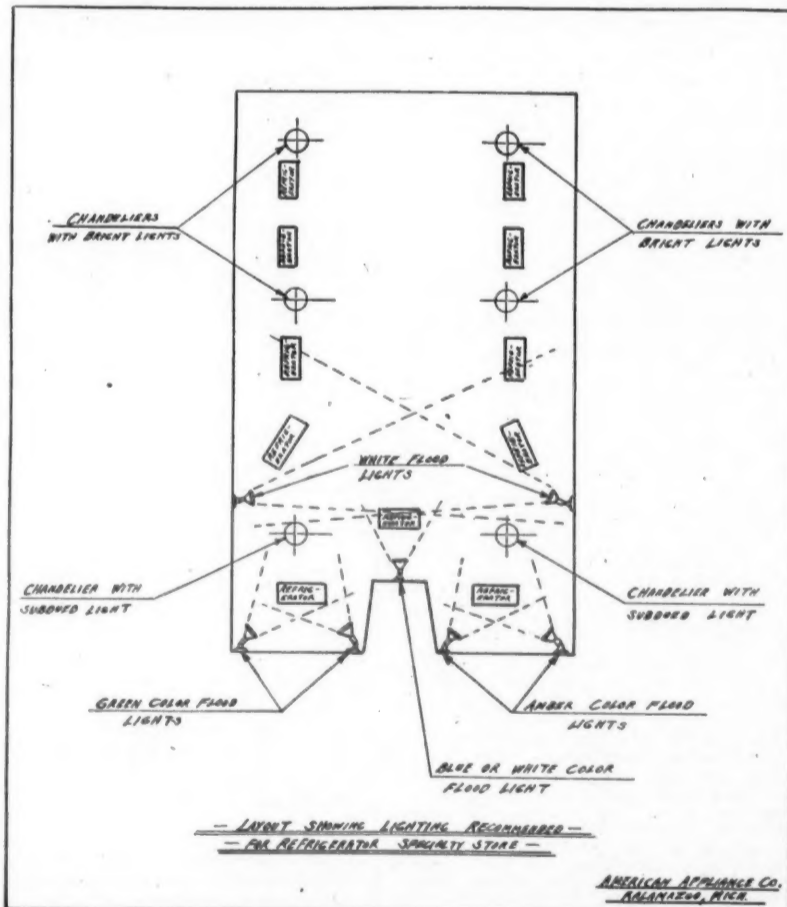
Wishes It Were a Weekly

Electric Refrigeration News, Detroit, Mich.

I wish to take this opportunity of congratulating you upon your success in bringing the Electric Refrigeration News to its present high standard. I find it indispensable in many ways and my only regret is that it is not published weekly instead of semi-monthly as at present.

H. J. DEYELL, Mgr.,
County Electric Refrigerator Co., Ltd.
Toronto, Ont., Canada.

Diagram Incorporates Proper Lighting Arrangements for Refrigerator Store



Sketch Suggests Use of Green, Blue and Amber Lights

The sketch above supplied by the American Appliance Co., 317 N. Church St., Kalamazoo, Mich., incorporates the suggestions of that concern for the proper lighting of an electric refrigerator store. They say, "We suggest that light colors should be used in a display of electric refrigerators, that is, colors such as amber, green and blue. These colors denote coolness, and at the same time attract attention."

"We recommend the use of two floodlights for each refrigerator on display, and that these floodlights be focused diagonally so that the central rays will combine in beautiful color effects. The refrigerators on display should not be placed more than 15 or 20 feet from the floodlight. An intense white light such as that developed by the average over-

head fixture should be subdued in the front of the store, as this white light will overcome the colorful effect created by the floodlights."



Type 12, Flood Light

TWENTY-FIVE ATTEND SERVICE SCHOOL CONDUCTED BY STERLING ELECTRIC CO. OF MINNEAPOLIS

Sterling Electric Co., Minneapolis, Minn., Kelvinator distributors, held a service school April 13. Twenty-five dealers from Minnesota and Wisconsin attended the school. Jack Loomis, manager of the Kelvinator department of the company, had charge of the arrangements for the school and Bruce Martin, of the Kelvinator factory, was in charge of instruction. The first week was devoted to domestic refrigeration and the second week commercial refrigeration is being taken up. E. A. Lindquist is manager of the company.

WAYNE REFRIGERATORS AND OIL BURNERS TO BE INSTALLED IN PERMANESQUE HOMES THIS YEAR

W. M. Wattles, divisional sales manager of the Wayne Home Equipment Co., Fort Wayne, Ind., recently closed a contract with Homes Permanesque, Inc., Cleveland, Ohio, for the installation of Wayne electric refrigerators and oil burners in all Permanesque fireproof homes erected in the United States this year.

Homes Permanesque, Inc., operates in a number of principal cities, where it grants franchises to realtors and builders for the exclusive right of use of its plans, trade mark and other advantages. More than a thousand demonstration homes will be built this year, it is planned.

MOVING COVERS PROTECT FINISHES ON CABINETS

The Lansing Sales Co., Boston, Mass., manufactures fitted padded moving covers for any make or size of electric refrigerator. These covers have a heavy



canvas outer covering and heavy fleece lining to protect the finish of the cabinet. All refrigerator covers are supplied with 4 lifting straps, which are supplied of 3-ply canvas webbing.

NORGE PACIFIC CO. HOLDS FIRST SALES CONVENTION AT SEATTLE

On March 24, salesmen and dealers representing the Norge Pacific Co. attended in Seattle the first sales convention ever held by this organization. Joseph Herzstam, president of the Norge Pacific Co., Los Angeles, Calif., attended the sessions. During the afternoon meeting he outlined a number of practical sales helps and at a banquet held in the evening at the New Washington Hotel, he traced the history of refrigeration.

Frigidaire-Absopure Patent Suit

Complete Proceedings Offered in Special Supplement

A complete record of the Federal Court proceedings involving important patents claiming basic features of electric refrigeration equipment. A most interesting historical document and a clear presentation of the scientific laws on which mechanical refrigeration processes are based. The original transcript consisted of 1,000 pages of typewritten matter. Illustrations include exhibits submitted in evidence. Explanatory notes are injected to assist the reader.

A special supplement reprinting all matter pertaining to the trial which appeared in the March 27 and April 10 issues of Electric Refrigeration News together with the revised opinion of the court will soon be ready for distribution. A limited number of copies will be published. Orders for single copies or quantities should be sent in without delay.

Price \$1.00 per copy post paid

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